SONY

3-757-628-15 (1)

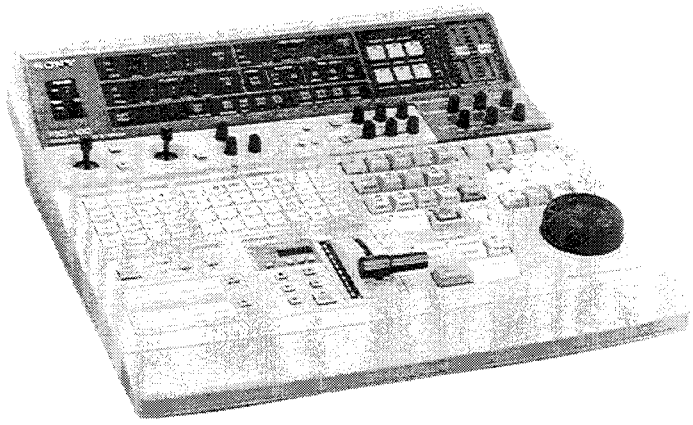
Video Editing System

Model:

FXE-100
FXE-100P

Operating Instructions

Before operating the unit, please read this manual thoroughly and retain it for future reference.



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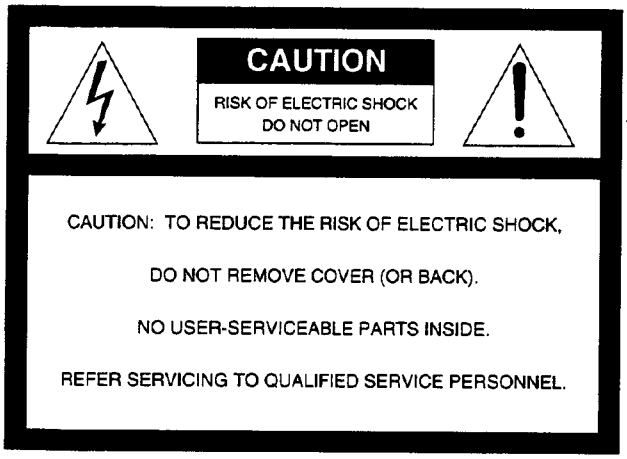
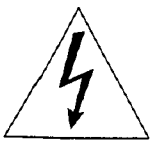
WARNING

To prevent fire or shock hazard, do not expose the unit to rain or moisture.

To avoid electrical shock, do not open the cabinet. Refer servicing to qualified personnel only.


CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN
CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK,
DO NOT REMOVE COVER (OR BACK).
NO USER-SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



This symbol is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

Owner's Record

The model and serial numbers are located at the rear. Record the serial number in the space provided below. Refer to these numbers whenever you call upon your Sony dealer regarding this product.

Model No. FXE-100 Serial No. _____

For customers in the U.S.A.

Warning — This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate this equipment.

The shielded interface cable recommended in this manual must be used with this equipment in order to comply with the limits for a digital device pursuant to Subpart B of Part 15 of FCC Rules.

For customers in Canada

This apparatus complies with the Class A limits for radio noise emissions set out in Radio Interference Regulations.

WARNING FOR THE CUSTOMERS IN THE UNITED KINGDOM
THIS APPARATUS MUST BE EARTHED.

IMPORTANT
The wires in this mains lead are coloured in accordance with the following code:

Green-and-yellow:	Earth
Blue:	Neutral
Brown:	Live

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug proceed as follows:
The wire which is coloured green-and-yellow must be connected to the terminal in the plug which is marked by the letter E or by the safety earth symbol ⏚ or coloured green or green-and-yellow.
The wire which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black.
The wire which is coloured brown must be connected to the terminal which is marked with the letter L or coloured red.

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About This Manual

This manual contains operating instructions for the FXE-100/100P video editing system.
This section describes the contents and purpose of this manual, and explains notational conventions used in the text and illustrations.

Intended audience

This manual is intended to be read by persons responsible for the operation and maintenance of professional video equipment at corporations, educational institutions, cable television stations and so on. It assumes that readers will be familiar with the basic concepts of video editing.
Experienced operators will be able to gain a general grasp of the unit's capabilities by reading through Chapter 2, "Location and Function of Parts". Readers with less experience may wish to turn first to Chapter 4, "Before Starting to Edit", and to the "Basic Editing" section in the handbook which accompanies this manual.
Explanations of technical terms used in the text can be found in the "Glossary" at the end of this manual.

Organization of this manual

Following is a concise description of the contents of each chapter in this manual.

Chapter 1 Outline
Describes the principal features of this unit and shows how typical editing systems can be configured around it.

Chapter 2 Location and Function of Parts
Contains explanations by functional group for each of the buttons, knobs, displays, switches and connectors on the control panel and connector panel.

Chapter 3 Preparations
Explains connections and precautions which should be observed when using this unit.

Chapter 4 Before Starting to Edit
Explains how to use the unit to control VCRs. Also explains how to select and adjust input and output signals in order to take advantage of the unit's built-in video switcher and audio mixer capabilities.

Chapter 5 Editing Operations
Explains the basic operating procedures used in every editing session, such as setting edit points and selecting effects. Also describes the procedures to follow in order to conduct previews, automatic edits, and reviews.

Chapter 6 Advanced Editing
Describes procedures which are useful in advanced editing, such as manual control over transitions, editing with separate video and audio tracks, and editing of variable-speed playback.

Chapter 7 Managing Edit Data

Explains how to use the unit's edit decision list (EDL) to assemble a complete program from individual edits, and how to transfer edit data to and from external equipment.

Chapter 8 Setup Menu

Describes the setup menu, which is used to configure the unit for use with a variety of formats and different kinds of video equipment.

Appendixes

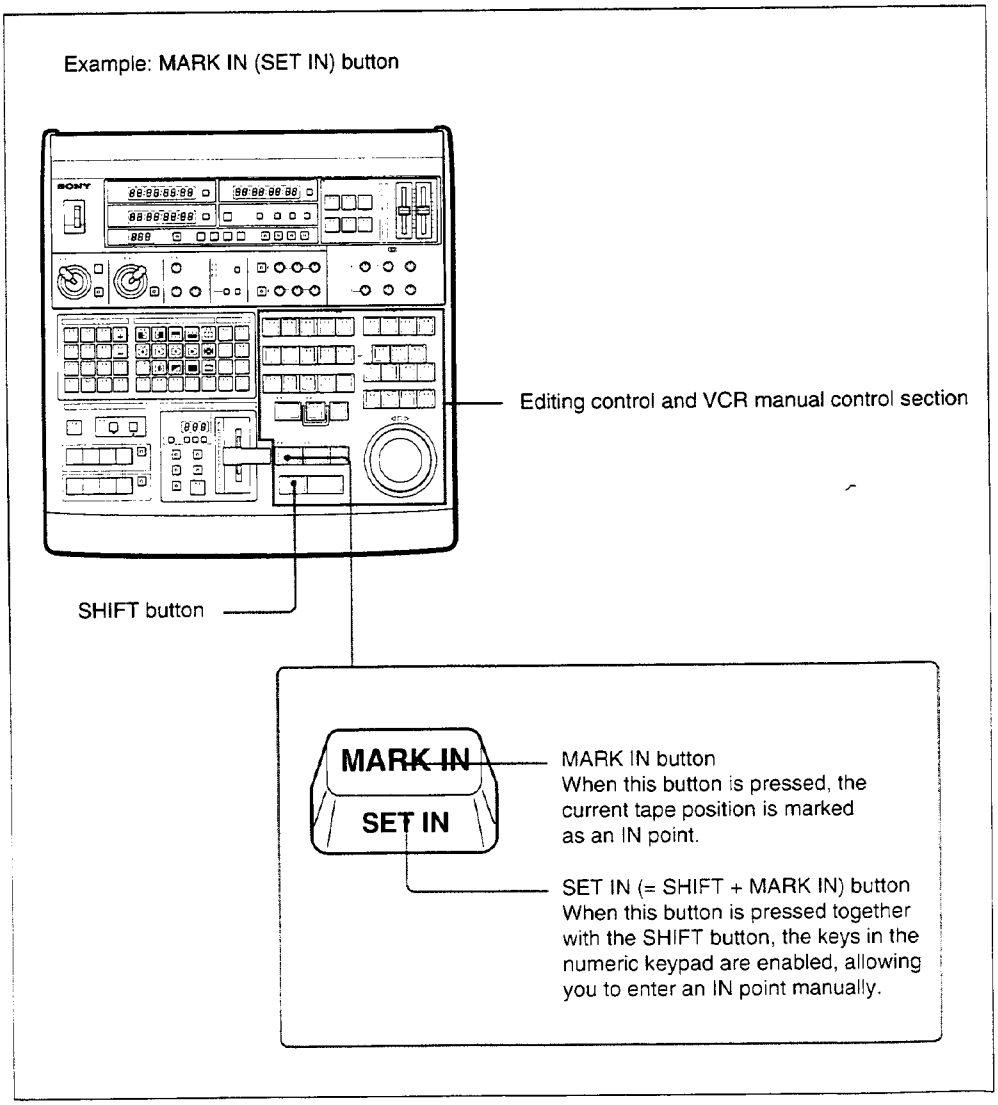
Contain the following supplements to this manual.
Error Messages
In Case of Trouble
Audio Signal Flow
GPI Interface Effect Timing
Wipe Patterns
Specifications
Glossary

Conventions

Button names

Some of the buttons on the control panel have two functions, indicated on the top and front sides of the button. When these buttons are first described in Chapter 2 "Location and Function of Parts", the button's complete name is given, with the name printed on the top of button coming first, followed by the name on the front of the button in parentheses: MARK IN (SET IN).

- To use the function printed on the top of the button (e.g. MARK IN), simply press the button. This is the operation referred to in this manual by "Press the MARK IN button."
- To use the function printed on the front of the button (e.g. SET IN), press the button together with the SHIFT button. The instructions in this manual will say to "Press the SET IN (= SHIFT + MARK IN) button."


Example: MARK IN (SET IN) button
Editing control and VCR manual control section
SHIFT button
MARK IN
SET IN
MARK IN button
When this button is pressed, the current tape position is marked as an IN point.
SET IN (= SHIFT + MARK IN) button
When this button is pressed together with the SHIFT button, the keys in the numeric keypad are enabled, allowing you to enter an IN point manually.

Names on the top and front sides of control panel buttons

About This Manual

Related information

References to sections or chapters in this manual which contain related information are printed in italics.

Technical terms

For explanations of technical terms, see the "Glossary" at the end of this manual.

About the FXE-100/100P handbook

In addition to this manual, a handbook to the FXE-100/100P is supplied in order to provide an introduction to the unit.
The handbook is divided into two sections, on basic and advanced editing. Readers who have never operated professional video equipment will profit from the explanations of basic video editing procedures. Experienced readers will find suggestions in the advanced section to help lend a professional appearance to their programs.

Chapter 1
Outline

This section introduces the principal features of the FXE-100/ 100P and describes several systems configured around it.

Features **1-2**
System Configuration Examples **1-6**
A-Roll and Cut Editing System 1-6
A/B Roll Editing System (1) 1-7
A/B Roll Editing System (2) 1-8

Features

The FXE-100/100P video editing system combines the functions of a video switcher, an audio mixer and a precision editing controller capable of executing A/B roll edits. Unlike conventional editing controllers, it does not require complicated connections to external equipment to achieve special effects such as mosaic and chroma-key insertion. All functions are available from an easy-to-use control panel. Connecting a single monitor allows you to view signals from each source at every stage of the editing process, from preview to program recording.

Following is a description of the principal features of this unit.

Supports multiple signal formats

Compatible with various VCRs

Three RS-422 and RS-232C interfaces permit simultaneous control of up to three VCRs. There are I/O connectors for composite video and S-video, making it possible to connect VCRs using a variety of signal formats, such as Hi8 and S-VHS.

Two time code formats

In addition to CTL signals, SMPTE/EBU standard longitudinal time code (LTC) and 8 mm time code can be used to specify locations on source and master tapes.

Editing functions

Versatile editing modes

- **A/B roll:** Uses two player VCRs for transition effects such as mix and wipe.
- **Self A-roll:** Uses one player, but allows mixes and wipes using normal playbacks and playbacks with input effects.
- **A-roll:** Uses one player, but mixes and wipes can be carried out using freeze frame playback from the recorder.
- **Sync roll:** Two players are run in synchronization, allowing you to switch between their playback as often as desired.
- **Manual effects:** Manual control allows you to vary the speed and timing of special effects at will.
- **Split editing:** Audio tracks can be mixed up to a minute sooner or later than video tracks.
- **DMC (Dynamic Motion Control) editing:** Permits editing of noiseless, variable-speed playback when operating with players that support Dynamic Tracking® (DT).

Precise edit points and transition times

Edit points can be set while viewing playback on the monitor or entered manually from the numeric keypad. Transition times for effects such as wipes and dissolves can also be set by dedicated buttons on the control panel or entered manually. Transition times range from 0 to 999 frames, for very precise effects.

Edit decision list

Auto assembly

Data for up to 99 edits can be saved in an internal edit decision list, allowing you to revise individual edits at any time for later assembly into a complete program.

Control panel snapshots

The current settings of the buttons in the video switcher and special effects sections of the control panel can be saved in memory together with edits. The state of the control panel can be instantly restored at any time by recalling the snapshot data.

Input and output of edit data

The unit is equipped with an RS-232C interface for input and output of edit decision list and snapshot data. The data can be transferred to and from personal computers or other external equipment.

Video switcher and special effects

Digital processing for high-quality video

Stable, high-quality video through 4-fsc (FXE-100) or 910 fH (FXE-100P) sampling of input video signals, 8-bit quantizing, and 4:1:1 digital processing in the signal processing section.

Digital frame memory

Both of the unit's signal buses (A and B) are equipped with digital frame memory. An internal synchronizer controls output from frame memory, for precise synchronization of A-bus and B-bus signals. This makes it possible to use VCRs without time base correction (TBC) as input sources.

Sophisticated digital effects

- **Mix:** In addition to normal dissolves, you can select mixes which apply effects such as mosaic, posterization and monochrome during the transition.
- **Wipe:** A total of 135 geometrical wipe patterns are available, along with wipe modes such as slide and scroll. Frequently used patterns may be assigned to the two user-programmable keys in the wipe pattern section.
  Wipe patterns can be given borders of a selected width and color.
- **Luminance key, chroma key:** Titles can be inserted into the video using camera output.

Input effects

Digital effects such as freeze frame, multi-screen and strobe may be applied independently to input video on bus A and bus B. Many of the digital effects can be used in combination.

Color correction

Color correction (white balance adjustment) can be carried out independently for A-bus and B-bus signals. Color correction parameters can be saved to memory and recalled when necessary.

Fade in/fade out

Fade in and fade out are available for use with black and white backgrounds.

Audio mixer

You can adjust the audio input level independently for each input signal, and adjust the level of audio output to the program recorder and monitor. You can also mix in audio from a microphone or auxiliary audio source for output as program audio.

Input/output channels

Video and audio input/output channels

As shown below, the unit features a rich variety of video and audio I/O channels.

Video input

Signal source	Signal format	
	S-video	Composite video
Player 1	1	1
Player 2	1	1
Recorder	1	1
Auxiliary source 1	1	1
Total	4	4

Video output

Output signal	Signal format	
	S-video	Composite video
Program signal 1	1	1
Program signal 2	1	1
Monitor signal	—	1
Total	2	3

Audio input

Signal source	Channels
Player 1	4
Player 2	4
Recorder	2
Auxiliary source 1	2
Auxiliary source 2	2
Microphone	1
Total	15

Audio output

Channels	Output signal
Program signal 1	2
Program signal 2	2
Monitor signal	2
Total	6

Switches on the connector panel can be used to select input and output signal impedance to match the impedance of connected equipment.

Black burst output

Signals from the internal black burst signal generator may be output from four output channels, to synchronize source equipment from this unit.

Control functions

In addition to three RS-422 interfaces and three RS-232C interfaces, the unit supports two GPI interfaces, allowing you to output status pulses at edit points in order to control external equipment, and to input timing pulses in order to control this unit.

Pinch-on delay measurement

Pinch-on delay (the time required for tape transport to start after a VCR receives a tape transport command) can be measured for up to three VCRs connected to this unit's RS-422 and RS-232C connectors. Measurement data is held in memory and used by the unit to adjust the timing of tape transport commands to the VCRs, for quick synchronization.

System setup menu

The system setup menu is displayed on the main monitor. It allows you to select operating modes and signal formats, and to configure the unit for use with various types of external equipment. Selections are made by rotating the search dial.

Optional accessories

The following cables are available for use with this unit.

RS-422 remote control cable

RCC-5G/10G/30G (9-pin, 5m/10m/30m): Connect RS-422 connectors on this unit to VCR RS-422 connectors.

RS-232C remote control cable

SMF-3036C null modem cable (9-pin/25-pin): Connect RS-232 connectors (D-sub 9-pin) and EDL IN/OUT connectors (D-sub 9-pin) on this unit to RS-232C connectors (D-sub 25-pin) on VCRs and external equipment.

XLR 3-pin ↔ phono-jack cross cable

Connect audio I/O connectors (phono-jack) on this unit to XLR 3-pin connectors on external equipment.

- RK-5XLRM (male, 5m)
- RK-5XLRF (female, 5m)

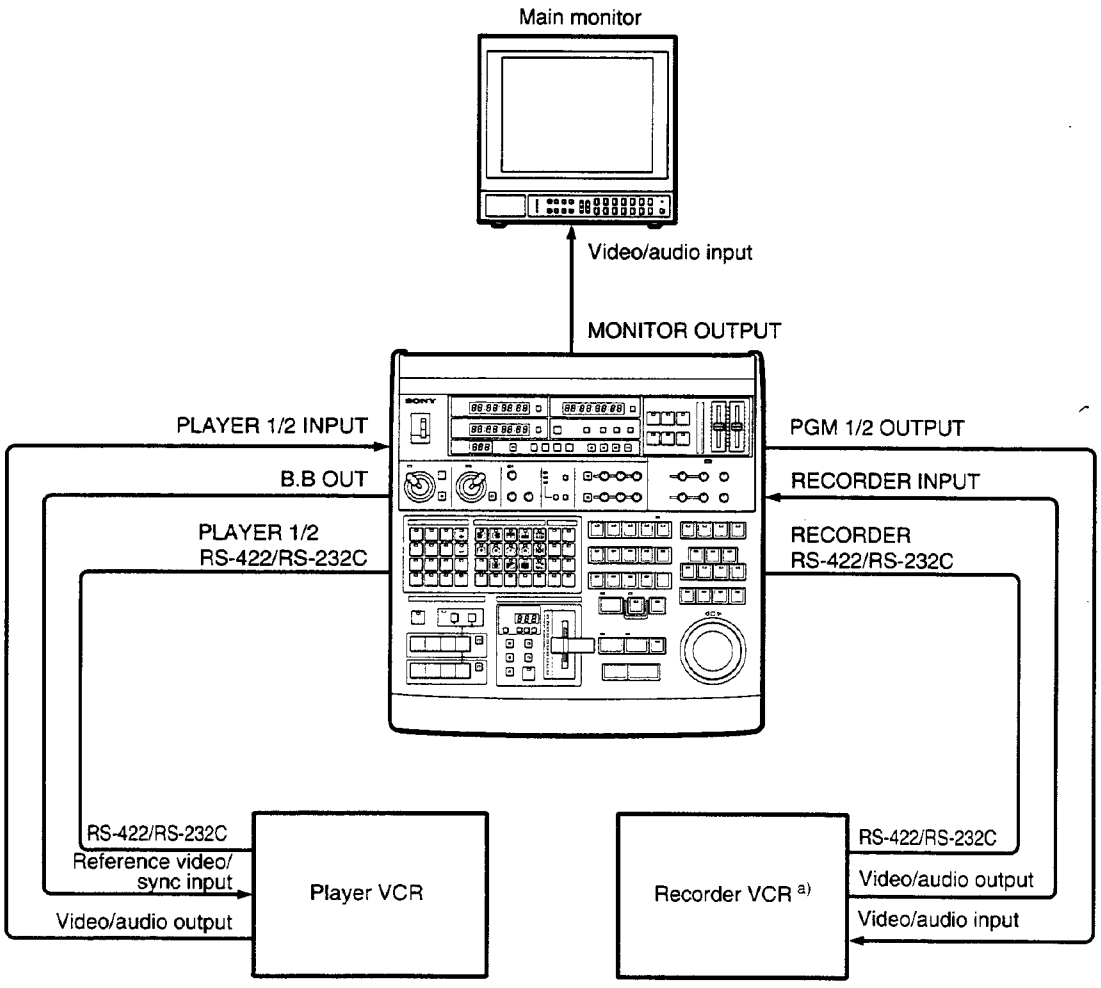
System Configuration Examples

This section presents three examples of editing systems which can be configured around this unit.
In the illustrations, connections between system components are illustrated by single lines, even if both audio and video cables are required. Arrows indicate the direction of the connection.

For more information, see "Connections" (page 3-3).

A-Roll and Cut Editing System

This example shows how to configure an editing system using only one player and one recorder.
In A-roll editing, freeze-frame playback from the recorder is read into bus B, allowing you to perform mix and wipe transitions with playback from the player VCR.

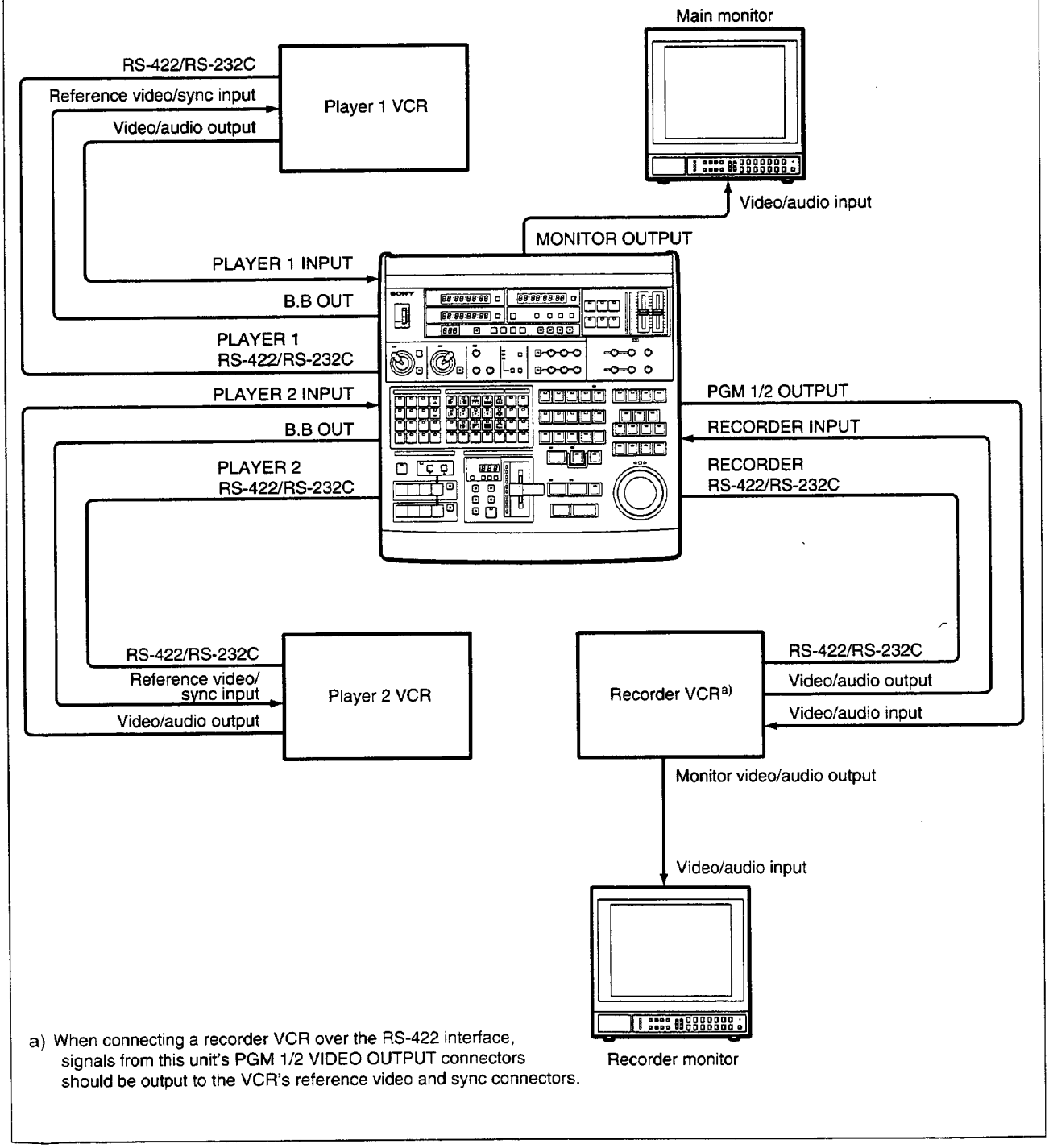


a) When connecting a recorder VCR over the RS-422 interface, signals from this unit's PGM 1/2 VIDEO OUTPUT connectors should be output to the VCR's reference video and sync connectors.

A-roll and cut editing system

A/B Roll Editing System (1)

This example shows how to configure an A/B roll editing system for mix and wipe transitions between playback from two players.

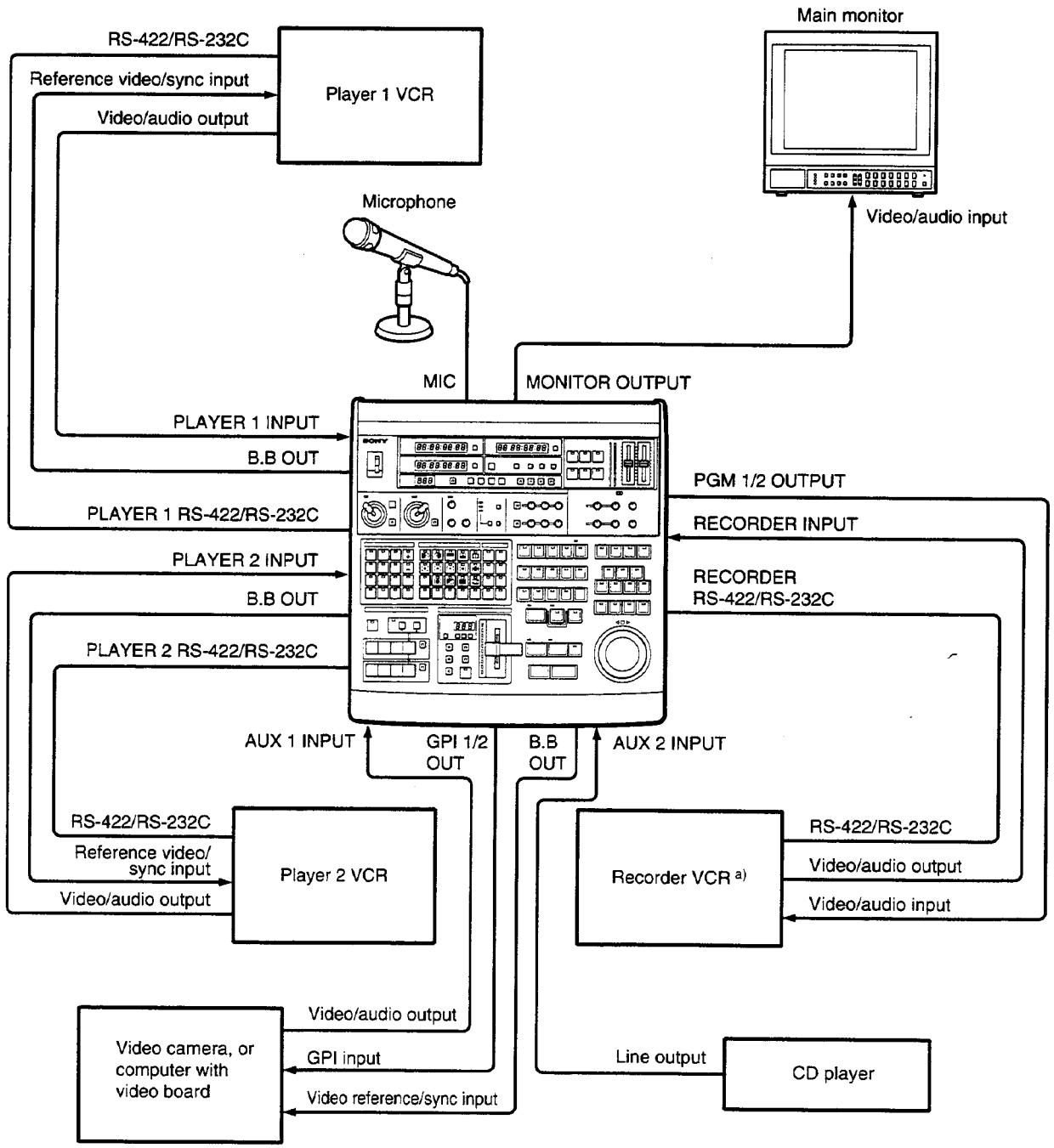


a) When connecting a recorder VCR over the RS-422 interface, signals from this unit's PGM 1/2 VIDEO OUTPUT connectors should be output to the VCR's reference video and sync connectors.

A/B roll editing system (1)

A/B Roll Editing System (2)

This example shows how to configure an A/B roll editing system with equipment to insert titles, narration and background music.



a) When connecting a recorder VCR over the RS-422 interface, signals from this unit's PGM 1/2 VIDEO OUTPUT connectors should be output to the VCR's reference video and sync connectors.

A/B roll editing system (2)

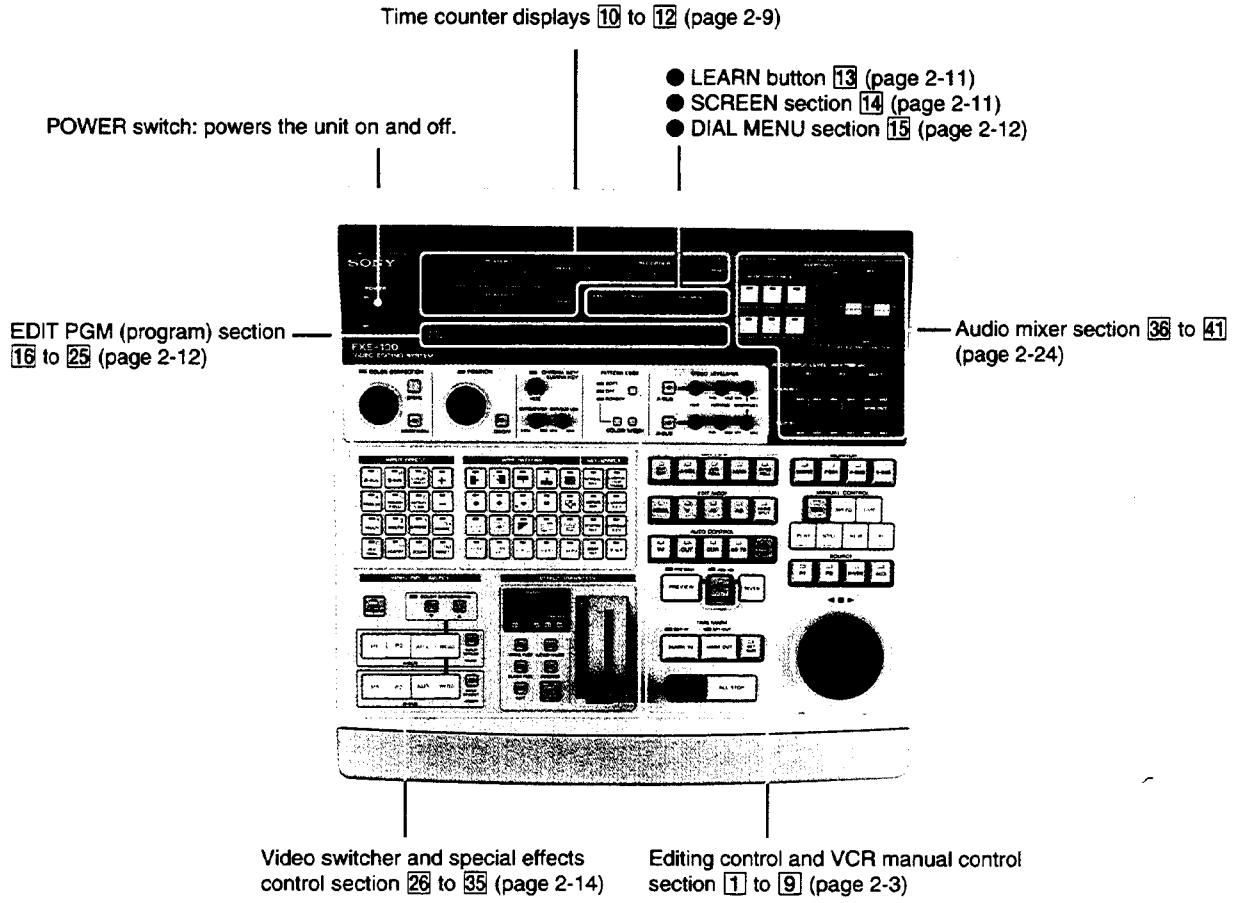
Chapter 2
Location and Function of Parts

This chapter describes the names and functions of the various parts of the unit. For the control panel, controls are grouped according to function in order to clarify their relationships.

Control Panel **2-2**
Editing Control and VCR Manual Control Section 2-3
Time Counter Displays 2-9
LEARN Button, SCREEN Section and DIAL MENU Section 2-11
EDIT PGM (Program) Section 2-12
Video Switcher and Special Effects Control Section 2-14
Audio Mixer Section 2-24
Connector Panel **2-26**

Control Panel

The following figure shows the top-level grouping of controls on the control panel.

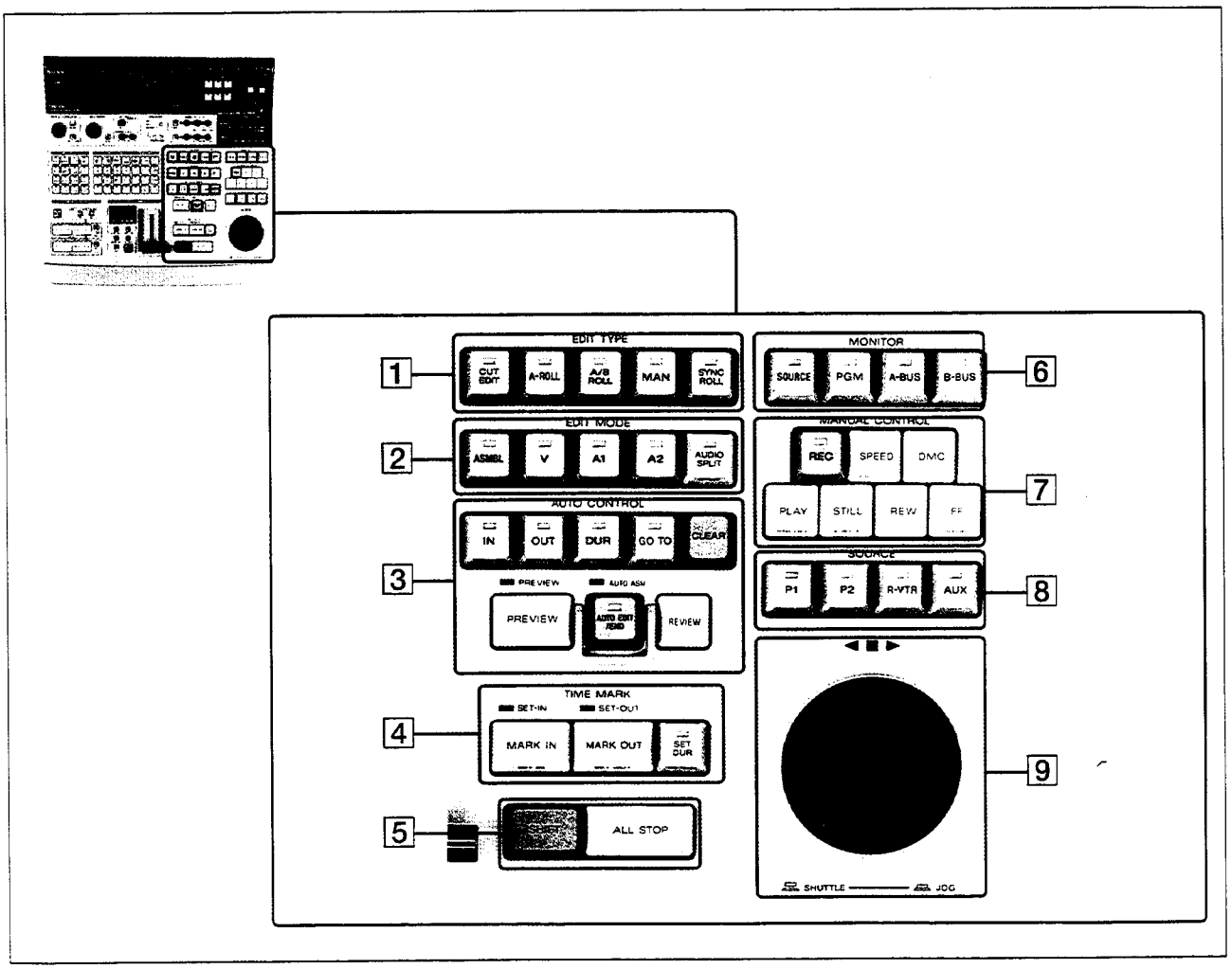

Time counter displays 10 to 12 (page 2-9)
● LEARN button 13 (page 2-11)
● SCREEN section 14 (page 2-11)
● DIAL MENU section 15 (page 2-12)
POWER switch: powers the unit on and off.
EDIT PGM (program) section 16 to 25 (page 2-12)
Audio mixer section 36 to 41 (page 2-24)
Video switcher and special effects control section 26 to 35 (page 2-14)
Editing control and VCR manual control section 1 to 9 (page 2-3)

- Numbers enclosed in squares show functional sub-groups below the top-level groupings. For example, the audio mixer group contains six functional sub-groups, numbered 36 to 41.
- See the page numbers in parentheses for detailed descriptions of each control in the top-level groups.

Control panel

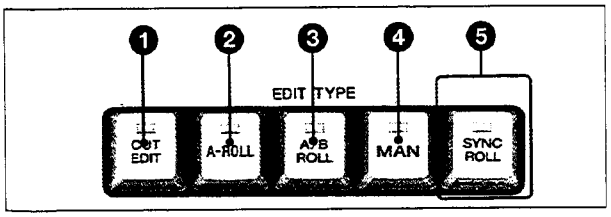
Editing Control and VCR Manual Control Section

This section includes controls for selecting the edit mode, setting edit points, and manual VCR control.



Editing control and VCR manual control section

1 EDIT TYPE section



This section includes controls for selecting the type of edit to be performed for each of the connected sources.

❶ CUT EDIT button

Press this button, turning it on, to carry out a cut edit.

❷ A-ROLL button

Press this button, turning it on, to insert effects such as wipes and mixes when editing with one recorder and one player.

❸ A/B ROLL button

Press this button, turning it on, to carry out A/B roll editing using two players and a recorder.

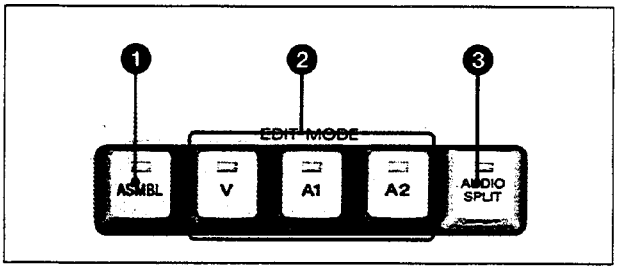
❹ MAN (manual) button

Press this button, turning it on, for manual control of wipes and dissolves.

❺ SYNC ROLL button

Press this button, turning it on, for sync roll editing (editing on the fly).

2 EDIT MODE selection section



❶ ASMBL (1ST EDIT) button

ASMBL (assemble): To select assemble mode, press this button, turning it on. If any of the insert mode buttons ❷ are lit, press them until they are all flashing before pressing this button.

1ST EDIT (= SHIFT + ASMBL): To select first edit mode, press this button, which will start flashing. If any of the insert mode buttons ❷ are lit, press them until they are all flashing before pressing this button.

❷ Insert mode buttons (V, A1 and A2 (TC))

To select a signal to be used in insert mode, press the corresponding button, turning it on. More than one button may be lit.

V button: Video signal

A1 button: Audio channel 1

A2 (TC) button:

A2: Audio channel 2

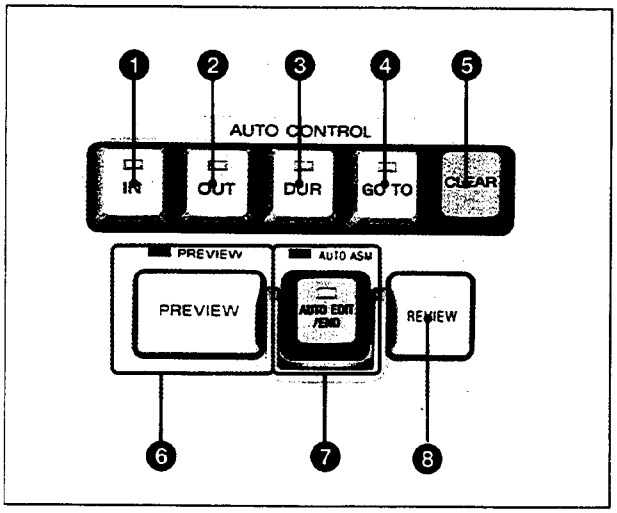
TC (= SHIFT + A2): Time code. Press this button so that it starts flashing to carry out time code insert editing.

❸ AUDIO SPLIT (SPLIT) button

AUDIO SPLIT: Press this button so that it starts flashing to split the audio and video IN points of the player or recorder.

SPLIT (= SHIFT + AUDIO SPLIT): In split editing, to check the player or recorder split offset, press this button, turning it on. The split offset will appear in the corresponding time counter display in seconds : frames format.

3 AUTO CONTROL section



This section includes the controls for setting, revising and confirming edit points, and for executing and reviewing automatic edits.

❶ IN (TRIM –) button

IN: Press this button to display the IN point of the VCR selected in the SOURCE section 8. The button lights, and the IN point is displayed in the corresponding time counter display 10, 11 or 12.

TRIM – (= SHIFT + IN): Press this button for fine adjustment of the time code value appearing in the time counter display of the selected VCR. Each time the button is pressed, the value is decremented by one frame.

❷ OUT (TRIM +) button

OUT: Press this button to display the OUT point of the VCR selected in the SOURCE section [8]. The button lights, and the OUT point is displayed in the corresponding time counter display.

TRIM + (= SHIFT + OUT): Press this button for fine adjustment of the time code value appearing in the time counter display of the selected VCR. Each time the button is pressed, the value is incremented by one frame.

❸ DUR (LAST X) button

DUR (duration): Press this button to display the duration value for the selected VCR. The button lights, and the duration (hours:minutes:seconds:frames) appears in the corresponding time counter display.

LAST X (= SHIFT + DUR): Press this button to undo the effect of a correction to a time code value or to restore a time code value cleared by the CLEAR button.

❹ GO TO (LAST ED) button

GO TO: To cue up the IN point or OUT point on the selected VCR, press the IN button ❶ or OUT button ❷ as appropriate, followed by this button.

LAST ED (edit) (= SHIFT + GO TO): After previewing and revising an edit, and previewing the edit again, press this button to return to the state before the revisions.

❺ CLEAR (TOTAL) button

CLEAR: To delete the IN point, OUT point, or duration setting for the selected VCR, press the IN button ❶, OUT button ❷ or DUR button ❸ as appropriate, followed by this button.

Additionally, press this button to exit from numeric keypad mode.

For more information about numeric keypad mode, see the descriptions of the TIME MARK buttons [4].

TOTAL (= SHIFT + CLEAR): Press this button to check the total duration of the edits carried out. The total is displayed in the RECORDER time counter display.

❻ PREVIEW button and PREVIEW indicator

After completing the settings for an edit, press this button to preview the edit before execution. The indicator lights and a preview begins, allowing you to check both video and audio on the monitor, from the preroll point to the postroll point.

❼ AUTO EDIT/END (AUTO ASM) button and AUTO ASM indicator

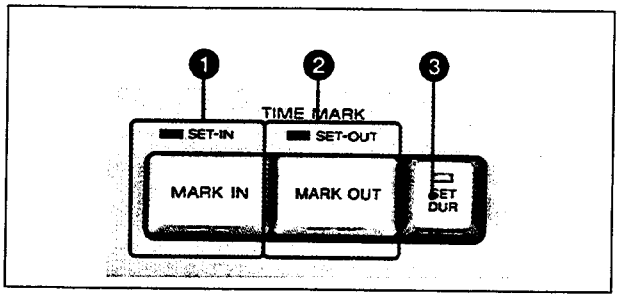
AUTO EDIT/END: Press this button, turning it on, to execute an automatic edit. Press it again after beginning an automatic edit to end the edit.

AUTO ASM (assemble) (= SHIFT + AUTO EDIT/END): Press this button to carry out continuous automatic recording. The AUTO ASM indicator lights, and continuous editing begins from an arbitrary edit stored in the edit decision list.

❽ REVIEW button

Press this button, turning it on, to review the results of an edit. The tape on the recorder is played back from the preroll point to the postroll point.

4 TIME MARK section



❶ MARK IN (SET IN) button and SET IN indicator

MARK IN: Press this button to set an IN point while watching the playback of the VCR selected in the SOURCE section 8.

SET IN (= SHIFT + MARK IN): Press this button, turning the SET IN indicator on, to enter an IN point value using the numeric keypad 30.

❷ MARK OUT (SET OUT) button and SET OUT indicator

MARK OUT: Press this button to set an OUT point while watching the playback of the VCR selected in the SOURCE section 8.

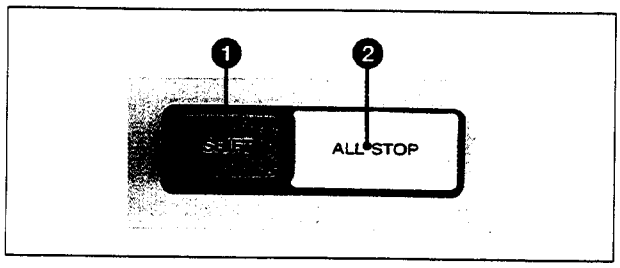
SET OUT (= SHIFT + MARK OUT): Press this button, turning the SET OUT indicator on, to enter an OUT point value using the numeric keypad 30.

❸ SET DUR (SET TRANS) button

SET DUR (duration): Press this button to enter a duration value using the numeric keypad 30.

SET TRANS (transition) (= SHIFT + SET DUR): Press this button to enter an effect transition time using the numeric keypad 30.

5 SHIFT button and ALL STOP button



❶ SHIFT button

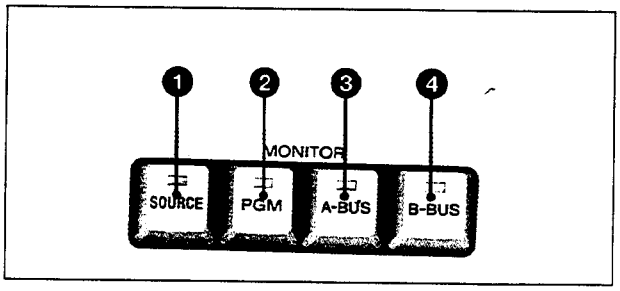
When this button is held down, each of the buttons in the editing control and VCR manual control section has the effect indicated on the front side of the button.

For details see the descriptions of the individual buttons.

❷ ALL STOP button

Press this button to stop all of the VCRs connected to the PLAYER 1 and 2 RS-422/RS-232C connectors and the RECORDER RS-422/RS-232C connectors.

6 MONITOR section



The buttons in this section select signals for output to the main monitor, connected to the MONITOR OUTPUT connectors on the connector panel. When you press them, the buttons light to indicate the selected signals.

❶ SOURCE button

Selects the source signals specified in the SOURCE section 8.

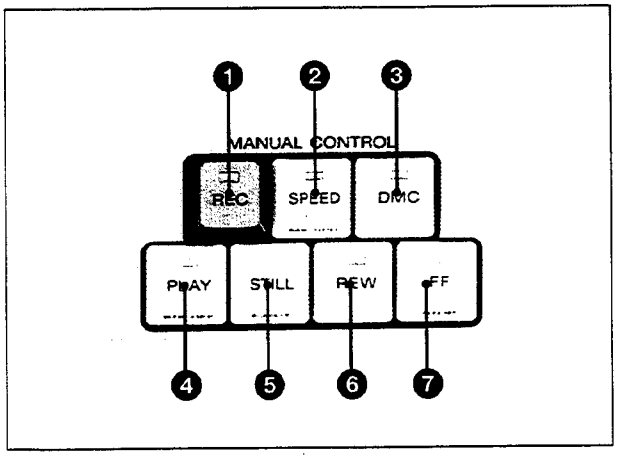
❷ PGM (program) button

Selects the program signals. Editing and special effects signals are output to the main monitor as well as to the recorder and the program monitor connected to the PGM 1/2 OUTPUT connectors.

❸ A-BUS button
Selects the audio and video on the A bus. Bus signals are output directly, without passing through frame memory.

❹ B-BUS button
Selects the audio and video on the B bus. Bus signals are output directly, without passing through frame memory.

7 MANUAL CONTROL section



The buttons in this section provide manual control of the VCRs connected to the PLAYER 1 and 2 RS-422/RS-232C connectors and the RECORDER RS-422/RS-232C connectors.

❶ REC (record) button
To record the output signals from the PGM 1/2 OUTPUT connectors without making any editing settings, hold down this button and press the PLAY button, turning both buttons on.

❷ SPEED (MK-SPD) button
SPEED: In DMC (dynamic motion control) editing, press this button to check the initial playback speed set with the MK-SPD (= SHIFT + SPEED) button. The button lights, and the dynamic tracking playback speed is shown in the time counter display as a percentage of normal playback speed.

MK-SPD (mark speed) (= SHIFT + SPEED): Use this button to set the initial playback speed for DMC (dynamic motion control) editing.

❸ DMC button
Press this button, turning it on, to carry out variable-speed playback on a player which supports dynamic tracking, or to control the playback speed during DMC editing.

❹ PLAY (STB OFF) button
PLAY: To start playback, press this button, turning it on.

STB (standby) OFF (= SHIFT + PLAY): Press this button to switch the VCRs out of standby mode, so that the tapes do not remain wound on the head drums. Use this function to protect the tapes and heads when taking an appreciable break in the editing process.

❺ STILL (EJECT) button
STILL: Press this button, turning it on, to get a still picture during playback.

EJECT (= SHIFT + STILL): Press this button to eject the cassette from a VCR.

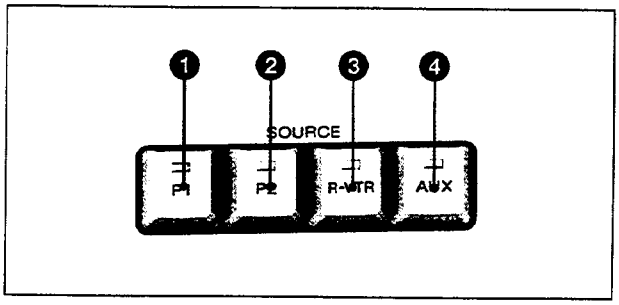
❻ REW (rewind) button
Press this button, turning it on, to rewind the tape.

❼ FF (STOP) button
FF (fast forward): Press this button, turning it on, to fast forward the tape.

STOP (= SHIFT + FF): Press this button to stop the tape.

8 SOURCE section

The buttons in this section select the VCRs controlled from this unit, the source affected by edit point operations, and the source signals which are sent to the MONITOR OUTPUT connectors. When you press them, the buttons light to indicate the selected source.



❶ P1 (player 1) button

- Selects player 1 for control from this unit.
- Selects player 1 as the source for the monitor signal.

❷ P2 (player 2) button

- Selects player 2 for control from this unit.
- Selects player 2 as the source for the monitor signal.

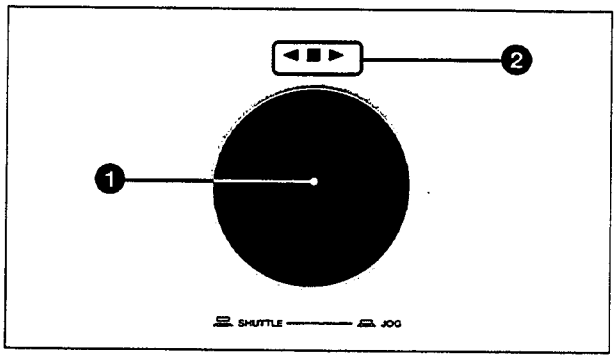
❸ R-VTR (recorder) button

- Selects the recorder for control from this unit.
- Selects the recorder as the source for the monitor signal.

❹ AUX (auxiliary) button

Selects auxiliary source 1 as the source for the monitor signal.

9 Search dial and playback direction indicators



❶ Search dial

The search dial is used for two purposes.

- It acts as a combined shuttle and jog control, for controlling variable-speed playback and searching for edit points.
- It is used to select menu items and set parameters in the setup menu.

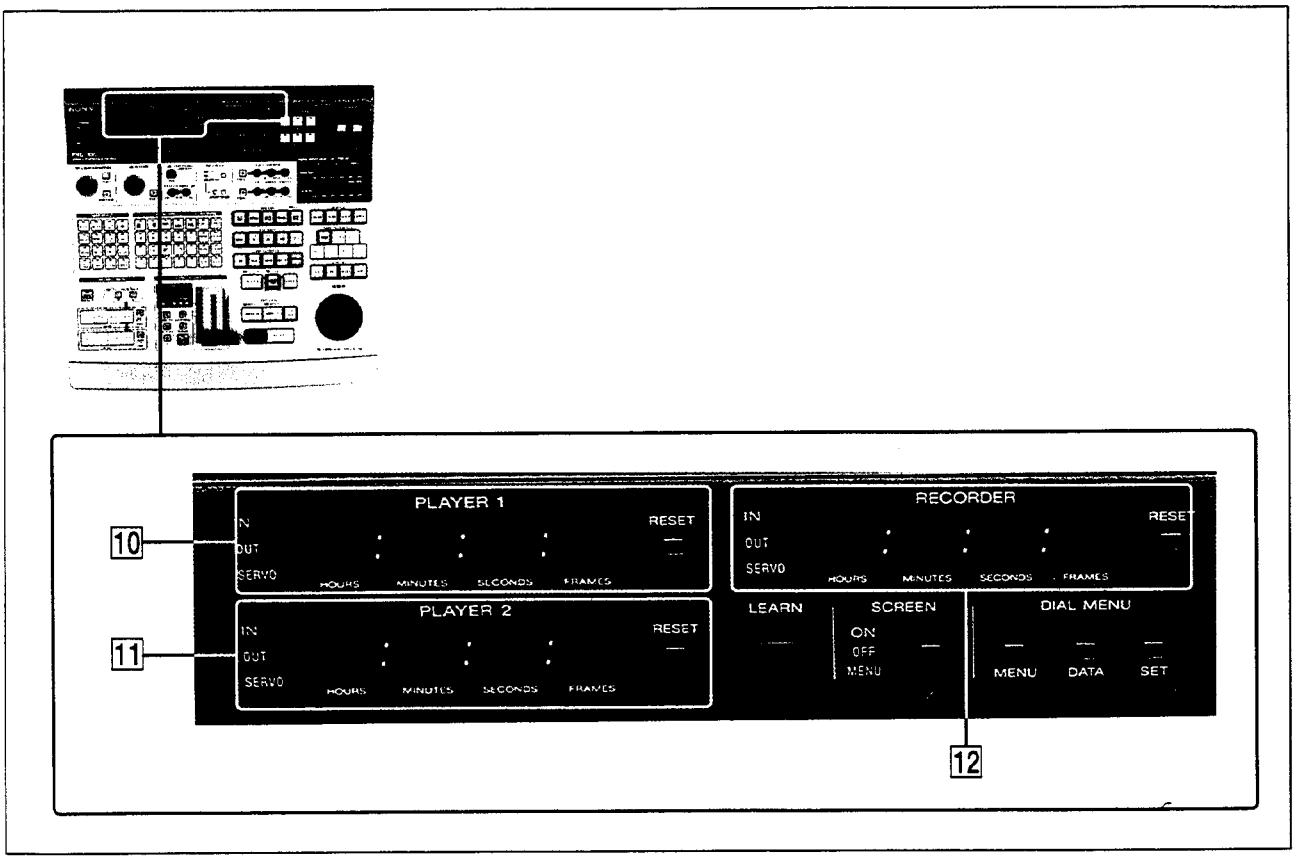
❷ Playback direction indicators

These indicators light to show the status or direction of playback.

□ : Lights during still playback.
▷: Lights during forward playback.
◁: Lights during reverse playback.

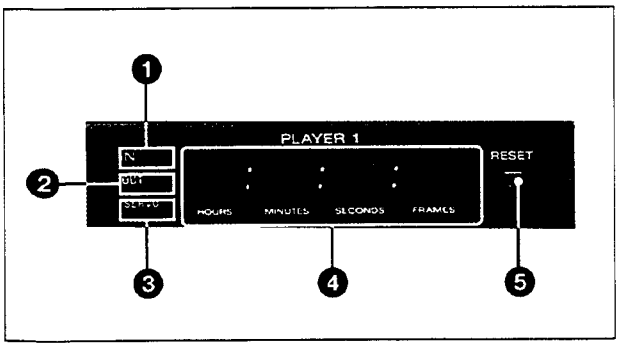
Time Counter Displays

These display time code values for each of the VCRs: player 1, player 2 and the recorder.



Time counter display panels

10 PLAYER 1 time counter display panel



❶ IN indicator

Lights when an IN point appears in the PLAYER 1 time counter display ❹. If the player 1 IN point is not set, this indicator flashes and "-- -- -- --" appears in the time counter display.

❷ OUT indicator

Lights when an OUT point appears in the PLAYER 1 time counter display ❹. If the player 1 OUT point is not set, this indicator flashes and "-- -- -- --" appears in the time counter display.

❸ SERVO indicator

Lights when the drum and capstan servos of player 1 are locked.

❹ PLAYER 1 time counter display

Displays time codes showing the tape position, an edit point position, tape speed during variable-speed playback, and other information relating to player 1. Also displays error codes to signal misoperations or improper settings.

❺ RESET button

When the CTL count is displayed in the time counter display, pressing this button resets it to "0:00:00:00".

11 PLAYER 2 time counter display panel

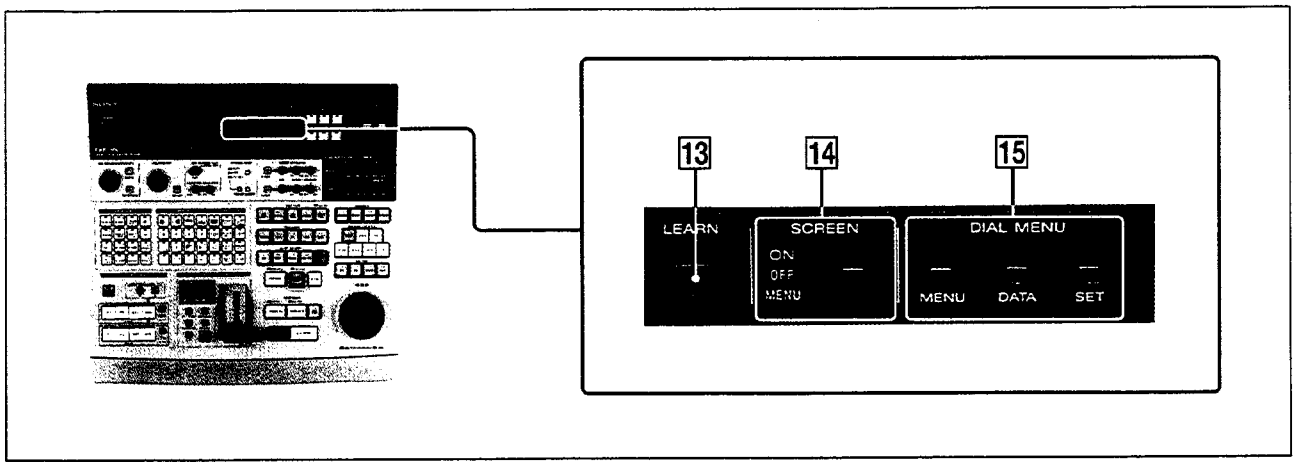
This panel has functions for player 2 corresponding to those in the PLAYER 1 time counter display panel 10.

12 RECORDER time counter display panel

This panel has functions for the recorder corresponding to those in the PLAYER 1 time counter display panel 10.
It is also used to display the following data.

- The duration for the auxiliary source connected to the AUX 1 INPUT connector on the connector panel, or values input for auxiliary source 1 with the numeric keypad.
- The total duration for the edits carried out.

LEARN Button, SCREEN Section and DIAL MENU Section

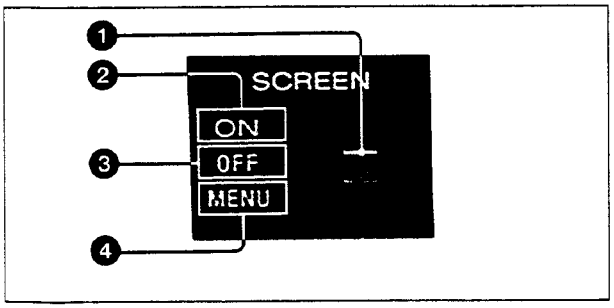


LEARN button, SCREEN section and DIAL MENU section

13 LEARN button

Pressing this button automatically measures, for each of the VCRs connected to the PLAYER 1 and 2 RS-422/RS-232C connectors and the RECORDER RS-422/RS-232C connectors, the time required for tape transport to begin after a tape transport command is received (the pinch-on delay). These values are held in memory and used by the system to control tape transport operations, for quick synchronization of the VCRs.

14 SCREEN section



❶ SCREEN button

This button selects whether or not the monitor screen displays status information and setup menu items.

Pressing this button cycles through the three possibilities indicated by the ON ❷, OFF ❸, and MENU ❹ indicators.

❷ ON indicator

When this indicator is lit, the monitor display includes status information.

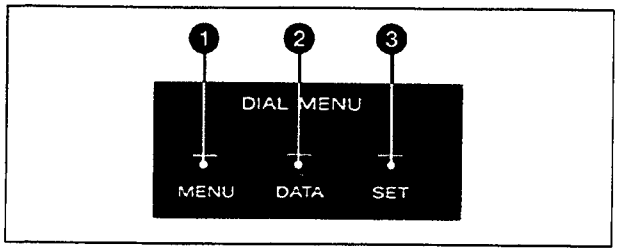
❸ OFF indicator

When this indicator is lit, the monitor does not display status or menu information.

❹ MENU indicator

When this indicator is lit, the monitor display includes setup menu information, and the setup menu can be controlled using the DIAL MENU buttons 15 and the jog-mode (depressed) search dial.

15 DIAL MENU section



The buttons in this section are used for menu operations.

For details, see Chapter 8.

❶ MENU button

To change the menu item displayed on the main monitor, hold this button down and rotate the search dial in jog mode.

❷ DATA button

To change the setting of the currently displayed menu item, hold this button down and rotate the search dial in jog mode.

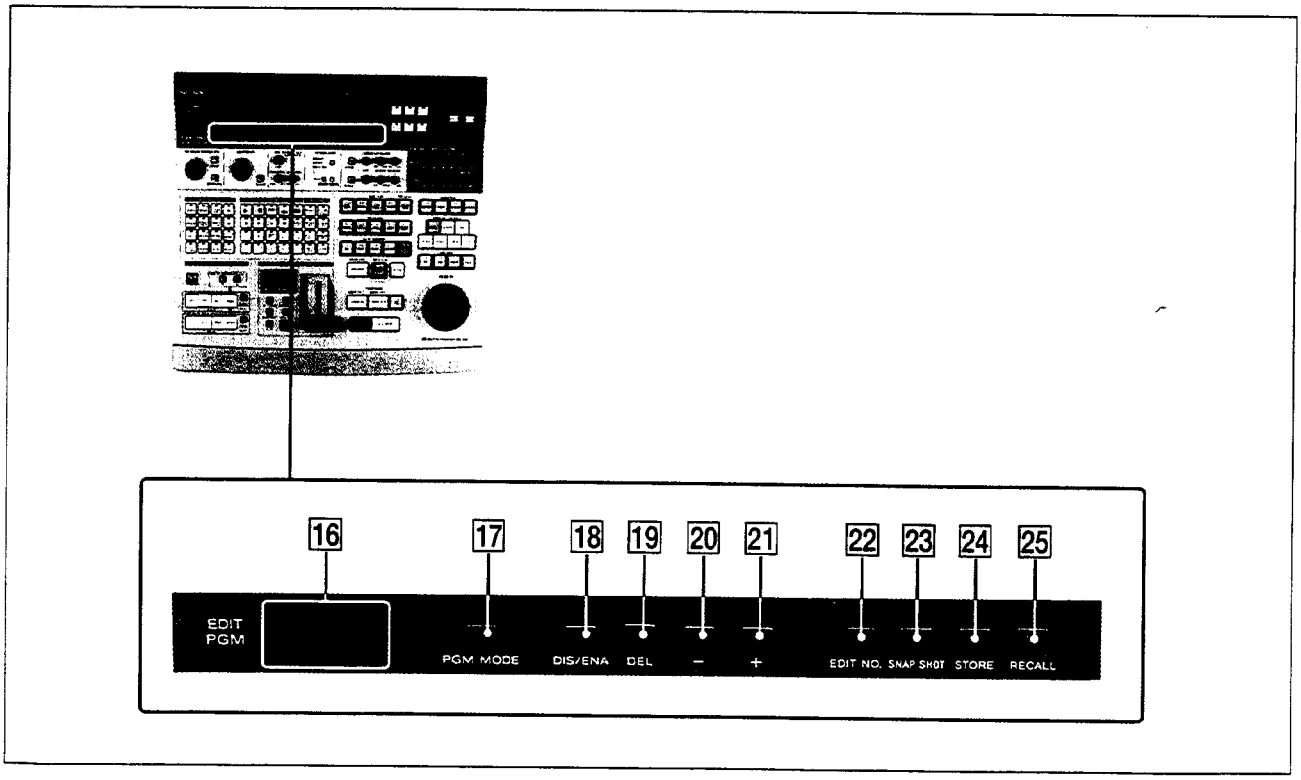
❸ SET button

Pressing this button confirms the flashing value on the screen as the new value of a setting, and saves it in memory.

EDIT PGM (Program) Section

Use the buttons in this section to control the edit program.

For details, see Chapter 7.



EDIT PGM section

16 Edit number display

Displays the current edit number.

17 PGM (program) MODE button

Press this button, turning it on, to start the edit control program.

18 DIS/ENA (disable/enable) button

Press to skip an edit that will not be needed during auto assembly recording.

19 DEL (delete) button

To delete an unneeded edit from memory, select the edit, then press this button.

20 '–' button

Press this button to select the edit immediately before the current edit. Each press of the button decrements the number appearing in the edit number display 16. Pressing the button when 001 is displayed selects the new edit number. However, if 99 edits have been registered, 001 cycles round to edit number 099.
Holding this button down decrements the number in the edit number display continuosly.

21 '+' button

Press this button to select the edit immediately after the current edit, or hold it down to increment the edit number continuously. However, if 99 edits have been registered, edit number 099 cycles round to edit number 001.

22 EDIT NO. button

This button lights to indicate that edit data has been registered under the currently displayed edit number. If you press the RECALL button 25 to recall edit or snapshot data, this button begins to flash at the same time as the RECALL button. Pressing this button while it is flashing turns it off, allowing you to recall snapshot data only.

23 SNAPSHOT button

This button lights to indicate that snapshot data has been registered under the currently displayed edit number. If you press the RECALL button 25 to recall edit or snapshot data, this button begins to flash at the same time as the RECALL button. Pressing this button while it is flashing turns it off, allowing you to recall edit data only.

24 STORE button

After setting edit data or snapshot data, or making changes to data, press this button to save the data in memory without executing an edit. The button begins to flash. Press it again while it is flashing to store the data.

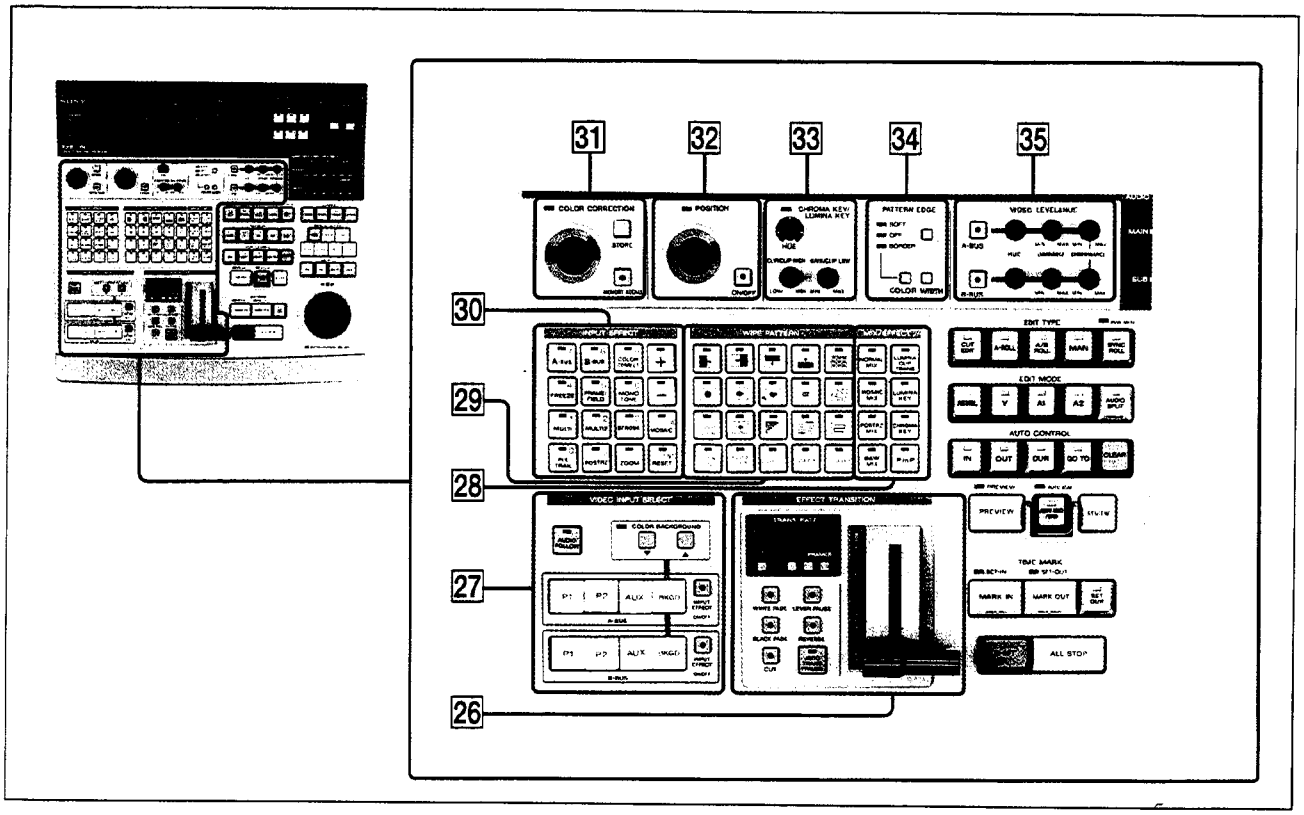
25 RECALL button

Press this button to recall edit or snapshot data. Use the '–' button 20 or '+' button 21 to select the edit, then press this button so that it begins to flash. (At the same time, the EDIT NO. 22 and SNAPSHOT 23 buttons also begin to flash.) The recall operation is executed when you press the flashing RECALL button once more. The control panel settings immediately change to the settings for the recalled edit.
However

- Edit data is not recalled if the EDIT NO. button 22 is off.
- Snapshot data is not recalled if the SNAPSHOT button 23 is off.

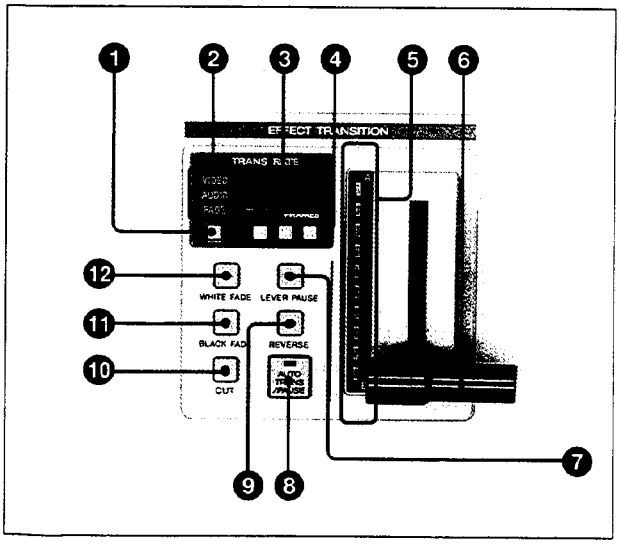
Video Switcher and Special Effects Control Section

This block of controls provides selection and control of video input signals, and various special effects.



Video switcher and special effects control section

26 EFFECT TRANSITION section



Use the controls in this section to execute transitions, and set the transition time.

1 VIDEO/AUDIO/FADE button

Press this button to toggle the VIDEO, AUDIO, and FADE indicators on and off.

- If the AUDIO SPLIT button in the EDIT MODE section 2 is flashing (that is, if you are conducting a split edit), pressing this button lights one of the VIDEO, AUDIO, and FADE indicators, turning the others off.
- If the AUDIO SPLIT button is off, pressing this button toggles the VIDEO and AUDIO indicators together, turning the FADE indicator on or off.

❷ VIDEO, AUDIO, and FADE indicators

Press the VIDEO/AUDIO/FADE button to toggle these indicators on and off.

VIDEO/AUDIO: If you perform an operation which sets the transition time when both of these indicators are lit, the same transition time is set for both video and audio. Transition times for video only or audio only can be set only when the AUDIO SPLIT button in the EDIT MODE section is flashing.

FADE: When this indicator is lit, an effect transition time can be set for fade in/fade out.

Note

When the VIDEO and AUDIO indicators are both lit, independent transition times cannot be set for video and audio.

❸ TRANS RATE display

Displays the transition time in frames, as set by the three TRANS RATE buttons ❹ below.

❹ TRANS RATE buttons

Use these three buttons to set the transition time in frames (range: 0 to 999 frames).
Pressing one of these buttons increments the corresponding digit of the TRANS RATE display. Pressing it while holding down the SHIFT button [5] decrements the value.
The factory default setting for the transition time is 30 frames (FXE-100) or 25 frames (FXE-100P).

❺ Transition indicators

These show the progress of a transition. As the transition proceeds, progressively more of the indicators light. For example, when a transition from bus A to bus B is completed, only one indicator at the B-bus end is lit. When more than one indicator is lit, the video output is a combination of A-bus and B-bus signals.

❻ Fader lever

Use for manual control of a wipe or dissolve. The transition begins when you start to move the lever from one extremity, and ends when the lever reaches the opposite position. While the lever is in an intermediate position, the output is a combination of A-bus and B-bus signals.

The fader lever is disabled when the AUTO TRANS/PAUSE button ❽ is lit.

❼ LEVER PAUSE button

In auto transition mode, press this button to pause a wipe or dissolve at the position of the fader lever. The button lights. When the transition reaches the state represented by the position of the lever, this button begins to flash and the transition pauses. To continue the transition, either press the AUTO TRANS/PAUSE button ❽ or move the fader lever. Moving the fader lever takes the unit out of auto transition mode and puts it into manual transition mode.

❽ AUTO TRANS (transition)/PAUSE button

Pressing this button, turning it on, then pressing it once more executes an automatic transition using the transition time specified for a wipe or dissolve.
If you press this button while an auto transition is in progress, the transition is paused, and the button changes from lit to flashing. Pressing it again resumes the transition, and the button lights again. If you resume the transition by moving the fader lever, the unit leaves auto transition mode and enters manual transition mode.

❾ REVERSE button

When a wipe, luminance key or luminance clip transition is being used, pressing this button provides one of the following effects.

- For a wipe, the direction of movement of the wipe pattern is reversed.
- When the luminance key is selected, portions of the video outside of the specified luminance range are removed, instead of portions inside the range.
- For a luminance clip transition, the keying sequence from dim portions to bright portions is reversed, to key from bright portions to dim portions.

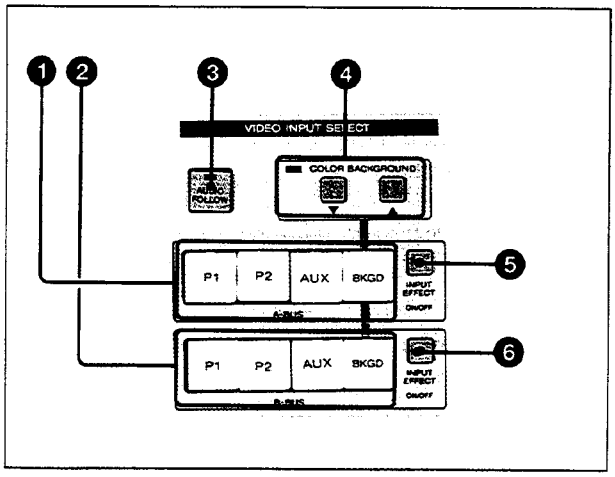
❿ CUT button

Press this button, turning it on, to switch instantaneously between A-bus video and B-bus video.

⓫ BLACK FADE button
Press this button, turning it on, to fade in from black, or to fade out to black.

⓬ WHITE FADE button
Press this button, turning it on, to fade in from white, or to fade out to white.

27 VIDEO INPUT SELECT section



❶ A-BUS video input selection buttons
To select a video source for bus A, press one of these buttons, lighting it either red or orange. When the button lights red, it means that the corresponding video signal is currently being output from the PGM 1/2 OUTPUT connectors. A button lit orange indicates that the source is selected, but is not currently being output. If the button is flashing, it means that there is no video input for the corresponding input connector (the monitor shows a grey background).
The buttons select sources as follows.

P1 button: Player 1 (the VCR connected to the PLAYER 1 INPUT connectors)
P2 button: Player 2 (the VCR connected to the PLAYER 2 INPUT connectors)
AUX button: Auxiliary source 1 (the video/audio device connected to the AUX 1 INPUT connectors)
BKGD button: The output from the internal color background generator. This button takes precedence over the other A-bus video input selection buttons. When this button is lit red, even if another button is also lit red, the output from the PGM 1/2 OUTPUT connector is the color background. To select one of the other buttons, press the BKGD button, turning it off.

❷ B-BUS video input selection buttons
Use these buttons to select a video source for bus B. However, during execution of an edit while the A-ROLL button in the EDIT TYPE section 1 is lit, these buttons go out and stay off even if pressed.

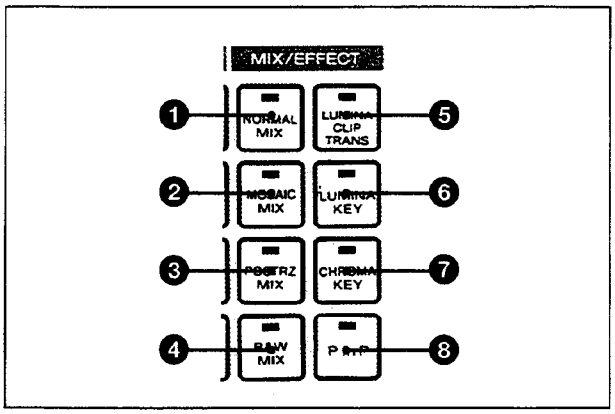
❸ AUDIO FOLLOW button
When this button is lit, selecting a video source as input to a bus automatically selects the same source for the audio input. In this case, when you carry out a wipe or dissolve, the audio signals change together with the video signals. To select the audio source independently from the video source, press this button, turning it off, then select the audio source using the appropriate button in the AUDIO INPUT SELECT section 36.

❹ Background color selection buttons (▼/▲) and COLOR BACKGROUND indicator
When the BKGD button in the video input selection buttons ❶ and ❷ for either of the buses is lit, the COLOR BACKGROUND indicator also lights. In this state, pressing the ▼ or ▲ button cycles through the available selection of 25 background colors for bus A or bus B.

❺ A-BUS INPUT EFFECT ON/OFF button
When this button is lit, the effect selected in the INPUT EFFECT section 30 is applied to bus A.

❻ B-BUS INPUT EFFECT ON/OFF button
When this button is lit, the effect selected in the INPUT EFFECT section 30 is applied to bus B.

28 MIX/EFFECT selection section



These buttons select the type of mix or key effect used to combine the video signals on the A and B buses. To make the selection, press the desired button, turning it on.

For details, see "Dissolve" (page 5-26) and "Key" (page 5-41).

❶ NORMAL MIX button
Provides a simple mix of the two signals, so that a transition from bus A to bus B is a dissolve.

❷ MOSAIC MIX button
Provides a dissolve in which the video becomes a progressively coarser mosaic to the mid-point of the transition, then returns progressively to normal.

❸ POSTRZ (posterization) MIX button
Provides a dissolve which simplifies the luminance of the video signal. The luminance cycles through the steps 16→8→4→8→16.

❹ B&W (black and white) MIX button
Provides a dissolve in which the video is changed progressively to monochrome to the mid-point of the transition, then returns progressively to normal.

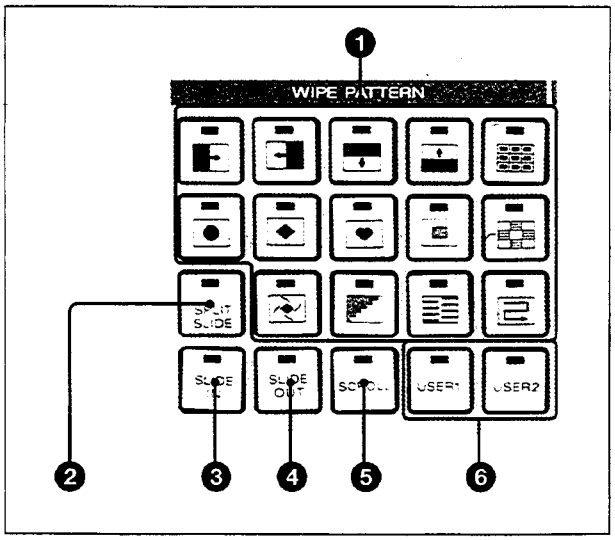
❺ LUMINA (luminance) CLIP TRANS (transition) button
Provides one type of luminance key. As the transition proceeds, portions of the old video of progressively increasing brightness are replaced by the new video.

❻ LUMINA (luminance) KEY button
Portions of B-bus video whose luminance (brightness) is equal to or higher than a specified reference level are replaced by A-bus video. The reference luminance level is specified using the controls in the CHROMA KEY/LUMINA KEY section 33.

❼ CHROMA KEY button
Portions of B-bus video of a specified hue are replaced by A-bus video. The reference hue is specified using the controls in the CHROMA KEY/LUMINA KEY section 33.

❽ P IN P (picture-in-picture) button
A small copy of the B-bus video is inserted in the A-bus video. The position of the insert picture can be controlled by the joystick in the POSITION section 32.

29 WIPE PATTERN selection section



The buttons in this section select the pattern to be used in a wipe effect. To make the selection, press the desired button, turning it on.

For details, see "Wipe" (page 5-29).

The following descriptions of buttons ❶ to ❻ assume you are making the transition from bus A to bus B.

❶ Buttons with symbols and arrows

- The symbol on the button represents the pattern with which the two video images are combined at an intermediate stage of the transition. The white portion corresponds to A-bus video, and the blue portion to B-bus video.
- The arrows show the direction of the wipe pattern.
- For the button [X] the video on the B bus rotates clockwise as the wipe proceeds.

❷ SPLIT SLIDE button

The B-bus video slides in over A-bus video in the form of stripes. When the stripes reach the far side of the screen, the remaining stripes of A-bus video begin to slide off, finally leaving only B-bus video.
The vertical or horizontal direction of the B-bus video slide can be selected with the [ ][ ][ ][ ] wipe buttons.

❸ SLIDE IN button

The B-bus video slides in over A-bus video. The vertical or horizontal direction of the B-bus video slide can be selected with the [ ][ ][ ][ ] wipe buttons. If the [ ] and [ ] buttons are both lit, the slide direction changes to a slant.

❹ SLIDE OUT button

The A-bus video slides out, revealing the B-bus video. The vertical or horizontal direction of the A-bus video slide can be selected with the [ ][ ][ ][ ] wipe buttons.

❺ SCROLL button

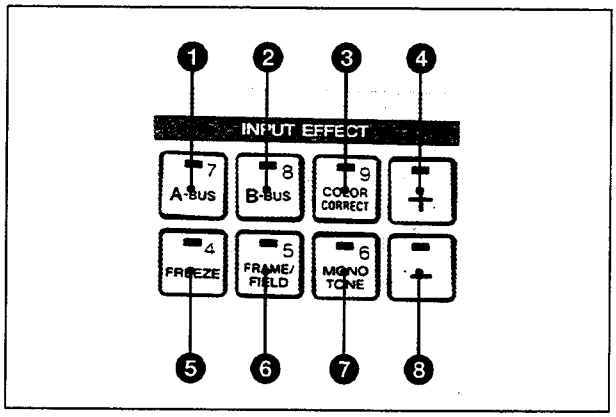
The B-bus video slides in, as A-bus video slides out. The vertical or horizontal direction can be selected with the [ ][ ][ ][ ] wipe buttons.

❻ USER 1 and USER 2 buttons

Frequently used wipe patterns and settings can be assigned to these buttons, using item 201 WIPE PATTERN in the setup menu.

For details, see Chapter 8.

30 INPUT EFFECT section (numeric keypad)



The buttons in this section select the digital effect applied to a bus when one of the A-BUS/B-BUS INPUT EFFECT ON/OFF buttons in the VIDEO INPUT SELECT section 27 is lit. You can press more than one of these buttons for combination effects.
The buttons of the INPUT EFFECT section 30 also double as a numeric keypad for entering time code and duration values.

❶ A-BUS button / 7 key

Press this button, turning it on, to apply the input effect to bus A.

❷ B-BUS button / 8 key

Press this button, turning it on, to apply the input effect to bus B.

Note

When setup menu item 306 INPUT EFFECT SELECT is set to ON, the input effect is applied automatically to the bus selected by the fader lever position.

For details, see Chapter 8.

❸ COLOR CORRECT button / 9 key

- Press this button, turning it on, to enable the controls in the COLOR CORRECTION section 31.
- To return color correction to its original state, either press this button once more, turning it off, or press the RESET button ⓰, turning it on.

❹ '+' key

This button is used together with other buttons in the INPUT EFFECT section to control effect selection.

For details, see the descriptions of the other buttons in this section.

❺ FREEZE button / 4 key

- To freeze the video, press this button, turning it on.
- To return to normal video, either press this button once more, turning it off, or press the RESET button ⓰, turning it on.

❻ FRAME/FIELD button / 5 key

- When the FREEZE button ❺ is lit, this button lights automatically. When it is lit, the freeze operation captures a single field. Press this button, turning it off, to capture a whole frame (two fields) instead. A single-field freeze capture may result in less blurring if there is rapid motion in the picture.
- This button also lights automatically when the MULTI ❾, STROBE ⓫, MOSAIC ⓬ and ZOOM ⓯ buttons are lit. But in these cases pressing it has no effect.

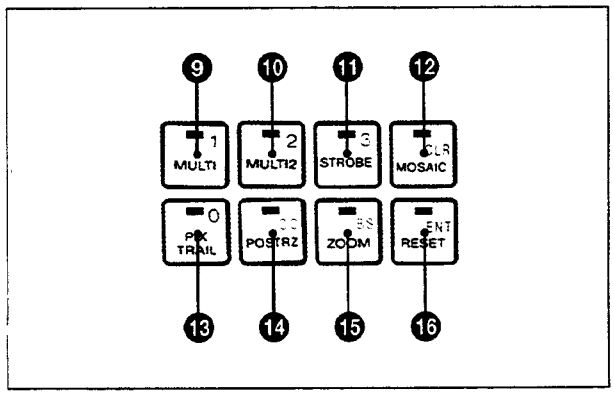
❼ MONOTONE button / 6 key

- Press this button, turning it on, to obtain a monotone (monochrome) picture. When this button is lit, pressing the COLOR CORRECT button ❸, turning it on, allows you to use the COLOR CORRECTION section 31 to adjust the monochrome tint, and save and recall it in memory.
- To return to the original color state, either press this button once more, turning it off, or press the RESET button ⓰, turning it on.

❽ '–' key

This button is used together with other buttons in the INPUT EFFECT section to control effect selection.

For details, see the descriptions of the other buttons in this section.



❾ MULTI button / 1 key

When you press this button, turning it on, the screen is split into a 3 by 3 grid, and a reduced copy of the video appears in the top left corner. Unless you applied this effect to a freeze frame, the video continues to move. You can now paste successive copies of freeze frames in the nine boxes, as follows. When you press the '+' key, the picture in the top left corner freezes, and the current video is shown in the top center box. Press it again, and this box freezes, and the current video moves to the upper right corner, and so on.
The '–' key has the same effect, except that the boxes are pasted in the reverse direction.

For details, see "Multiple screens" (page 5-46).

To return to normal video, either press this button once more, turning it off, or press the RESET button ⓰, turning it on.

❿ MULTI 2 button / 2 key

This button provides the same effect as the MULTI button ❾, except that the order in which the nine boxes are pasted is different.

For details, see "Multiple screens" (page 5-46).

To return to normal video, either press this button once more, turning it off, or press the RESET button ⓰, turning it on.

⓫ STROBE button / 3 key

Pressing this button, turning it on, freezes the video at a specified frame interval, giving a stroboscopic effect. You can adjust the frame interval using the '+' key ❹ and '–' key ❸.
To return to normal video, either press this button once more, turning it off, or press the RESET button ⓰, turning it on.

⓬ MOSAIC button / CLR (clear) key

- Pressing this button, turning it on, applies a mosaic grid to the picture. You can adjust the coarseness of the mosaic using the '+' key ❹ and '–' key ❸.
  To return to normal video, either press this button once more, turning it off, or press the RESET button ⓰, turning it on.
- In numeric keypad mode, press this key before pressing the ENT key ⓯ to clear a numerical value.

⓭ PIX TRAIL button / 0 key

Pressing this button, turning it on, produces an image trail of a certain length.
To return to normal video, either press this button once more, turning it off, or press the RESET button ⓰, turning it on.

⓮ POSTRZ (posterization) button / 00 key

- Pressing this button, turning it on, breaks the luminance down into a limited number of levels, producing a poster effect. You can select 16, 8 or 4 levels.
  To return to normal video, either press this button once more, turning it off, or press the RESET button ⓰, turning it on.
- Pressing this key in numeric keypad mode enters "00".

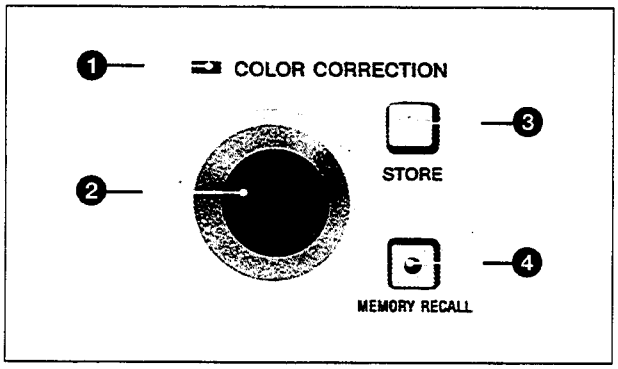
⓯ ZOOM button / BS (backspace) key

- Pressing this button, turning it on, provides a zoom function. Press the '+' key to expand the picture, and the '–' key to contract it.
  To return to normal video, either press this button once more, turning it off, or press the RESET button ⓰, turning it on.
- In numeric keypad mode, press this key before pressing the ENT key ⓰ to clear the most recently entered digit.

⓰ RESET button / ENT (enter) key

- When you press any of the other buttons in the INPUT EFFECT section, except for the A-BUS button ❶ and B-BUS button ❷, this button automatically goes off.
  Pressing this button, turning it on, turns off all the other buttons in the INPUT EFFECT section, and cancels their effect selections.
- In numeric keypad mode, pressing this key confirms the value entered and takes the unit out of numeric keypad mode.

31 COLOR CORRECTION section

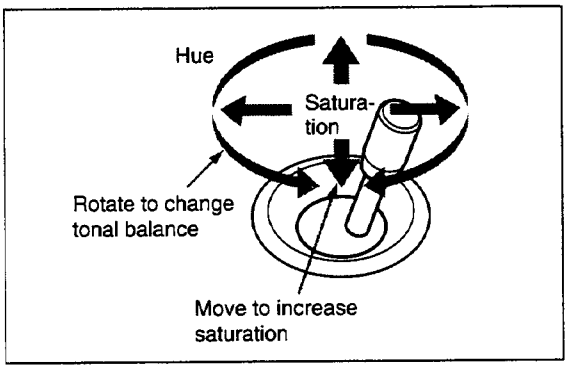


❶ COLOR CORRECTION indicator

When you press the COLOR CORRECT button in the INPUT EFFECT section 30, turning it on, this indicator lights to inform you that it is possible to carry out color correction. Color correction is applied to the bus selected with the A-BUS and B-BUS buttons in the INPUT EFFECT section.

❷ COLOR CORRECTION joystick

When the COLOR CORRECTION indicator ❶ is lit, moving this joystick carries out the color correction. Rotating the stick cycles through all possible hues. Moving it further from the center position increases the color saturation.



Using the COLOR CORRECTION joystick

The correction range can be specified using item 205 COLOR CORRECTION ADJUSTMENT WIDTH in the setup menu.

For details, see Chapter 8.

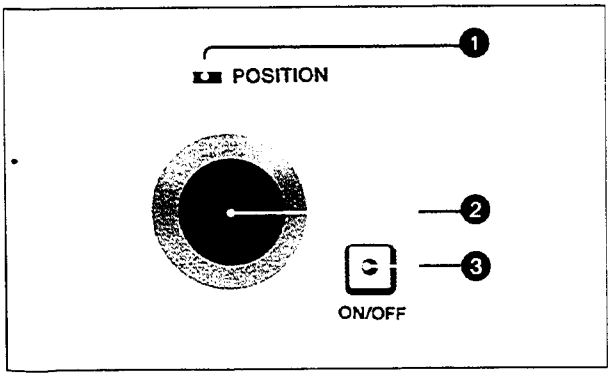
❸ STORE button

To save the color settings selected by the COLOR CORRECTION joystick, hold down this button and press the MEMORY/RECALL button ❹.

❹ MEMORY/RECALL button

To save the color settings selected by the COLOR CORRECTION joystick, press this button while holding down the STORE button ❸. To recall the settings held in memory, press this button alone.

32 POSITION section



❶ POSITION indicator

Selecting a wipe pattern whose center is changeable or turning on the P IN P (picture-in-picture) button, automatically turns on this indicator, and enables the POSITION ON/OFF button ❸.

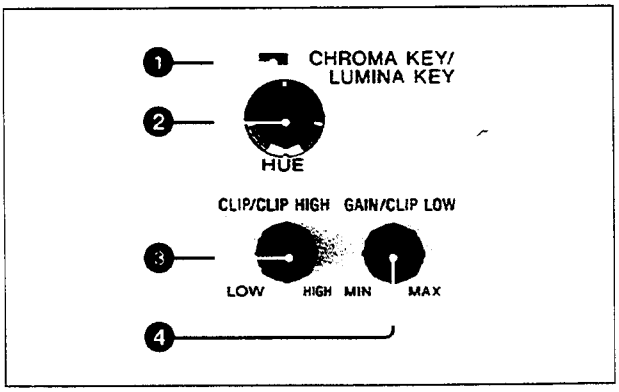
❷ POSITION joystick

When the POSITION ON/OFF button ❸ is lit, moving this joystick adjusts the position of some of the wipe patterns and the position of the insert picture in picture-in-picture mode (selected by pressing the P IN P button in the MIX/EFFECT section 28). However, the video quality of the insert picture in the picture-in-picture effect may deteriorate slightly when the insert is moved with the joystick.

❸ POSITION ON/OFF button

If you have selected a movable wipe pattern, pressing this button, turning it on, enables the POSITION joystick ❷.

33 CHROMA KEY/LUMINA KEY section



❶ CHROMA KEY/LUMINA (luminance) KEY indicator

When you press the LUMINA KEY button or the CHROMA KEY button in the MIX/EFFECT section 28, this indicator lights to inform you that the following three knobs are enabled.

❷ HUE knob

After pressing the CHROMA KEY button, turning it on, rotate this knob to select the chroma key hue.

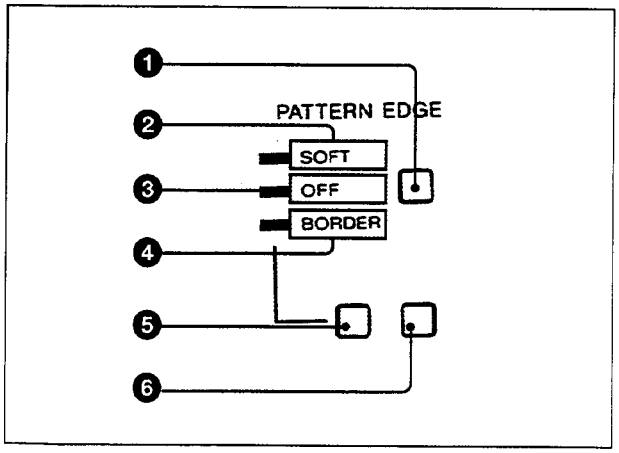
❸ CLIP/CLIP HIGH knob

- After pressing the CHROMA KEY button, turning it on, rotate this knob to select the chroma key saturation.
- After pressing the LUMINA KEY button, turning it on, rotate this knob to specify the reference level of brightness for the key. Use this control for relatively bright portions of the video.

❹ GAIN/CLIP LOW knob

- After pressing the CHROMA KEY button, turning it on, rotate this knob to adjust the gain level of the key source signal, that is the signal used to fill the background, in this system on bus A.
- After pressing the LUMINA KEY button, turning it on, rotate this knob to specify the reference level of brightness for the key. Use this control for relatively dark portions of the video.

34 PATTERN EDGE section



❶ PATTERN EDGE button

Pressing this button cycles through the SOFT indicator ❷, the OFF indicator ❸, and the BORDER indicator ❹, lighting one and turning the others off.

❷ SOFT indicator

When this indicator is on, the edges of certain wipe patterns become softer, for a fuzzy effect.

❸ OFF indicator

When this indicator is on, the wipe patterns have sharp edges.

❹ BORDER indicator

When this indicator is on, certain of the wipe patterns are given colored borders. You can adjust the border color with the COLOR button ❺, and the width with the WIDTH button ❻.

❺ COLOR button

When the BORDER indicator ❹ is lit, pressing this button cycles through the available selection of 15 border colors.

❻ WIDTH button

When the BORDER ❹ indicator is lit, pressing this button adjusts the width of the border in three steps.

35 VIDEO LEVEL & HUE section (FXE-100) VIDEO LEVEL & CHROMA PHASE section (FXE-100P)

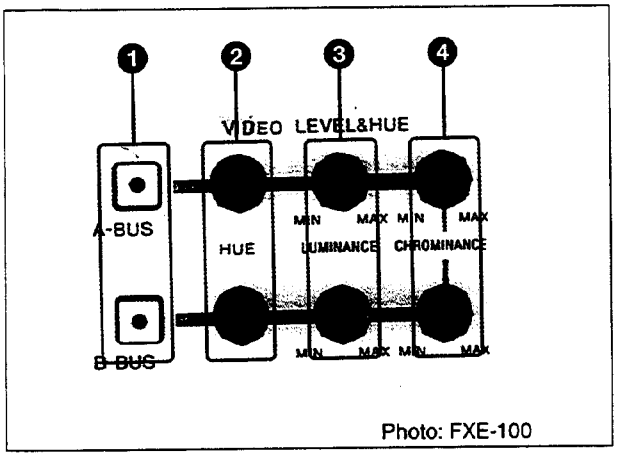


Photo: FXE-100

❶ A-BUS/B-BUS buttons

Press the A-BUS button, turning it on, to make the adjustment for the A bus, and the B-BUS button, turning it on, to make the adjustment for the B bus. Press the button once more, turning it off, to return the unit to the factory default state.

❷ HUE knob (FXE-100)

Turn this knob to adjust the hue.

CHROMA PHASE knob (FXE-100P)

Turn this knob to adjust the subcarrier phase of the chrominance signal.

❸ LUMINANCE knob

Turn this knob to adjust the luminance (brightness).

❹ CHROMINANCE knob

Turn this knob to adjust the saturation.

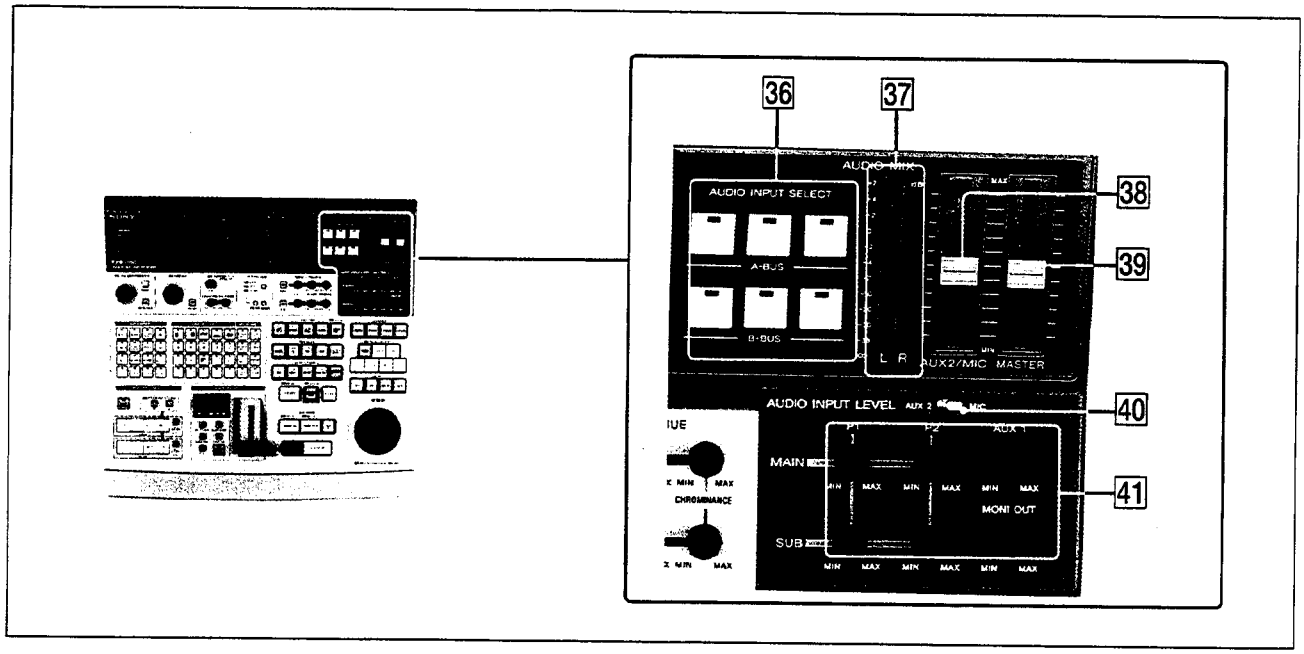
Note

The adjustment range for the HUE (FXE-100) or CHROMA PHASE (FXE-100P), LUMINANCE and CHROMINANCE knobs can be set in two steps using setup menu item 206 VIDEO LEVEL & HUE ADJUSTMENT WIDTH (FXE-100) or VIDEO LEVEL & CHROMA PHASE ADJUSTMENT WIDTH (FXE-100P).

For details, see Chapter 8.

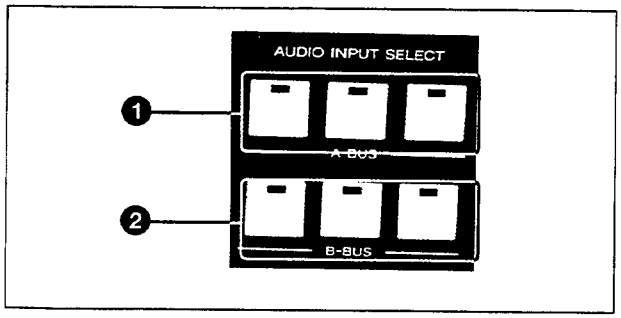
Audio Mixer Section

This block of controls provides selection and control of audio input signals.



Audio Mixer Section

36 AUDIO INPUT SELECT section



❶ A-BUS audio source selection buttons

To select an audio source for bus A, independent of the A-BUS video source selected in the VIDEO INPUT SELECT section 27, extinguish the AUDIO FOLLOW button in the VIDEO INPUT SELECT section, then press one of these buttons, lighting it.

The buttons select audio sources as follows.

P1 button: Player 1 (the VCR connected to the PLAYER 1 AUDIO L/R INPUT connectors)

P2 button: Player 2 (the VCR connected to the PLAYER 2 AUDIO L/R INPUT connectors)

AUX 1 button: Auxiliary source 1 (video/audio device connected to the AUX 1 AUDIO L/R INPUT connectors)

When the AUDIO FOLLOW button in the VIDEO INPUT SELECT section is lit, the audio from the source selected by the video input selection button (other than the BKGD button) is automatically selected as the audio source for bus A.

❷ B-BUS audio source selection buttons

Use these buttons to select an audio source for bus B.

37 Audio level meters

These meters show the audio levels of left and right channels of the audio output.

38 AUX (auxiliary) 2/MIC (microphone) fader

This fader controls the AUX 2 source or microphone audio mixing level. The AUX 2/MIC switch 40 determines which level is controlled. The further up the fader is, the higher the audio level.

39 MASTER fader

This fader controls the level of the audio output from the PGM 1/2 OUTPUT connectors. The further up the fader is, the higher the audio level. When the PGM button in the MONITOR section 8 is lit, moving this fader also controls the audio level of output from the MONITOR OUTPUT connector.

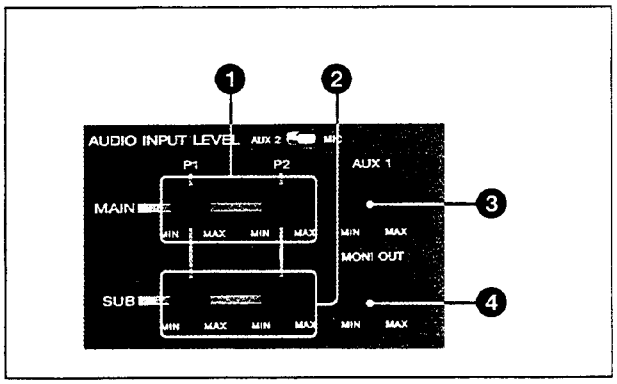
40 AUX 2/MIC switch

This switch selects the audio level adjusted by the AUX 2/MIC fader 38.

AUX 2: Audio input to the AUX 2 AUDIO L/R connectors on the connector panel

MIC: Audio input to the MIC connector on the connector panel

41 AUDIO INPUT LEVEL section



❶ P1 MAIN and P2 MAIN knobs

These knobs adjust the audio levels input to the PLAYER 1 and PLAYER 2 MAIN AUDIO L/R INPUT connectors.

❷ P1 SUB and P2 SUB knobs

These knobs adjust the audio levels input to the PLAYER 1 and PLAYER 2 SUB AUDIO L/R INPUT connectors.

❸ AUX 1 knob

This knob adjusts the audio level input to the AUX 1 L/R INPUT connectors.

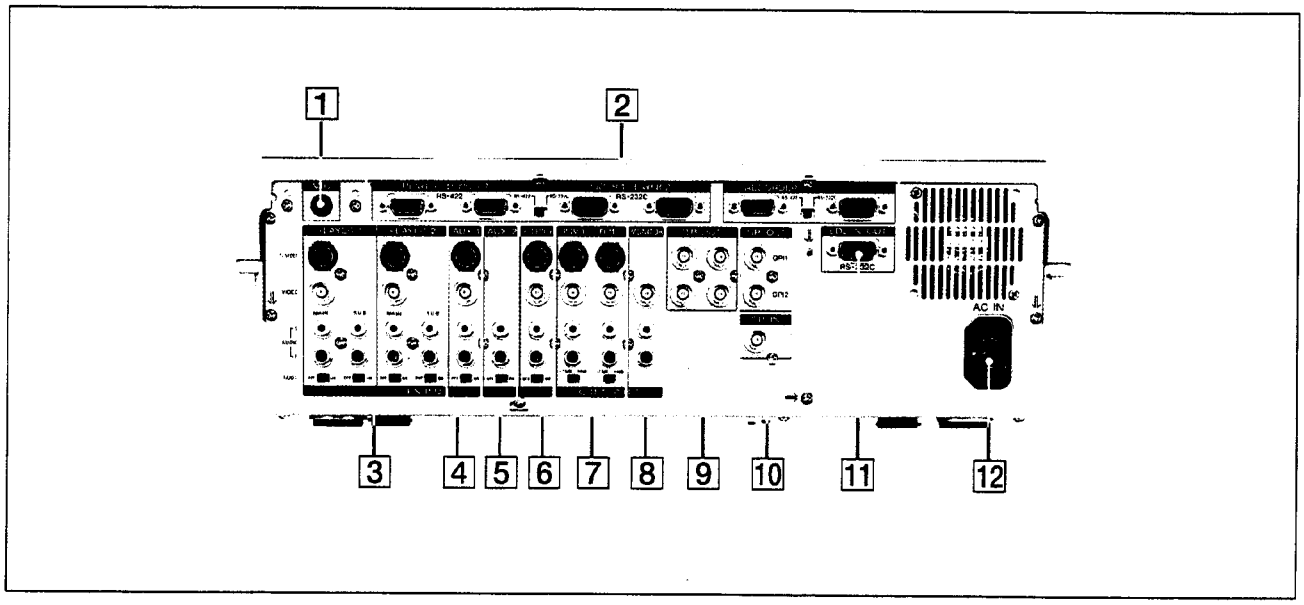
❹ MONI OUT (monitor output) knob

This knob adjusts the audio level output from the MONITOR AUDIO L/R OUTPUT connectors.

Each of the knobs ❶ through ❹ increases the volume when turned clockwise.

Connector Panel

For information about cables, see "Connections" (page 3-3).

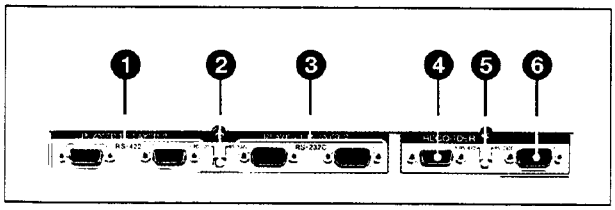


Connector panel

1 MIC (microphone) connector (monaural phone jack)

Connect a microphone. To adjust the audio input level from the microphone, set the AUX 2/MIC switch in the audio mixer section of the control panel to the MIC position, and move the AUX 2/ MIC fader.

2 VCR interface section



❶ PLAYER 1/2 RS-422 connectors (D-sub 9-pin)

When using VCRs with RS-422 interfaces for player 1 and 2, connect these connectors to the RS-422 connectors (D-sub 9-pin) on the VCRs.

❷ PLAYER 1/2 RS-422/RS-232C selector switch

RS-422: Set this switch to this position when connecting the player 1 and 2 VCRs to the PLAYER 1/2 RS-422 connectors ❶.

RS-232C: Set this switch to this position when connecting the player 1 and 2 VCRs to the PLAYER 1/2 RS-232C connectors ❸.

Note

Always turn the unit off before changing the position of the selector switches.

❸ PLAYER 1/2 RS-232C connectors (D-sub 9-pin)

When using VCRs with RS-232C interfaces for player 1 and 2, connect these connectors to the RS-232C connectors (D-sub 25-pin) on the VCRs.

❹ RECORDER RS-422 connector (D-sub 9-pin)

When using a VCR with an RS-422 interface for the recorder, connect this connector to the RS-422 connector (D-sub 9-pin) on the VCR.

❺ RECORDER RS-422/RS-232C selector switch

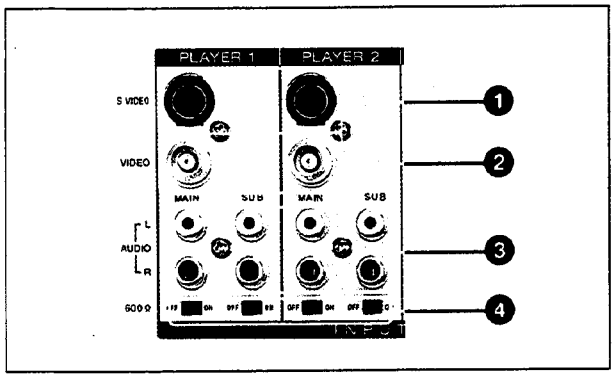
RS-422: Set the switch to this position when connecting the recorder VCR to the RECORDER RS-422 connector ❹.

RS-232C: Set the switch to this position when connecting the recorder VCR to the RECORDER RS-232C connector ❻.

❻ RECORDER RS-232C connector (D-sub 9-pin)

When using a VCR with an RS-232C interface for the recorder, connect this connector to the RS-232C connector (D-sub 25-pin) on the VCR.

3 PLAYER 1/2 video/audio inputs



❶ PLAYER 1/2 S VIDEO INPUT connectors (mini-DIN 4-pin)

Connect to the S-video output connectors of player 1 and player 2. When using these connectors, under item 101 VIDEO INPUT SELECT in the setup menu set P1 and P2 to S-V.

For details, see Chapter 8.

❷ PLAYER 1/2 VIDEO INPUT connectors (BNC)

Connect to the composite video output connectors of player 1 and player 2. When using these connectors, under item 101 VIDEO INPUT SELECT in the setup menu set P1 and P2 to V.

For details, see Chapter 8.

❸ PLAYER 1/2 AUDIO L/R INPUT connectors (phono jack)

Connect the left and right channel audio outputs from player 1 and player 2. Connect the channels which you want to use as the main audio input to the MAIN connectors, and those which you want to use as the subsidiary input to the SUB connectors.

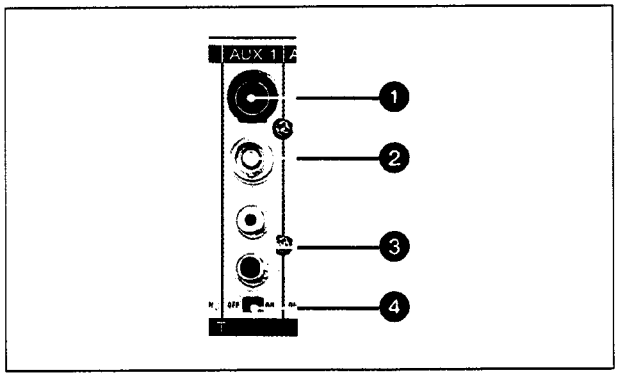
❹ 600 Ω termination switches

Set these switches to correspond to the connector type on the VCR connected to the PLAYER 1/2 AUDIO L/R INPUT connectors ❸, as follows.

ON: 600 Ω termination. VCR connector is a Cannon XLR 3-pin connector.

OFF: 47 kΩ or above termination. VCR connector is a phono jack.

4 AUX (auxiliary) 1 video/audio inputs



❶ AUX 1 S VIDEO INPUT connector (mini-DIN 4-pin)

Connect to the S-video output connector of the video source (video camera, VCR, laser disc player, etc.) used as auxiliary source 1. When using this connector, under item 101 VIDEO INPUT SELECT in the setup menu set AUX to S-V.

For details, see Chapter 8.

❷ AUX 1 VIDEO INPUT connector (BNC)

Connect to the composite video output connector of auxiliary source 1. When using this connector, under item 101 VIDEO INPUT SELECT in the setup menu set AUX to V.

For details, see Chapter 8.

❸ AUX 1 AUDIO L/R INPUT connectors (phono jack)

Connect the left and right channel audio outputs from auxiliary source 1.

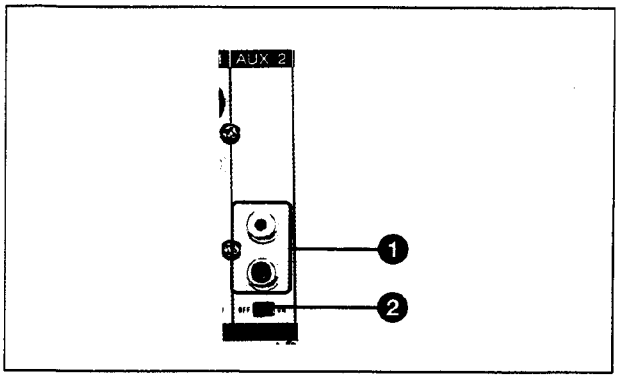
❹ 600 Ω termination switch

Set this switch to correspond to the connector type on the source connected to the AUX 1 AUDIO L/R INPUT connectors ❸, as follows.

ON: 600 Ω termination. Source connector is a Cannon XLR 3-pin connector.

OFF: 47 kΩ or above termination. Source connector is a phono jack.

5 AUX (auxiliary) 2 audio inputs



❶ AUX 2 AUDIO L/R INPUT connectors (phono jack)

Connect the left and right channel audio outputs from the audio source (CD player, tape recorder, etc.) used as auxiliary source 2. To adjust the audio input level from auxiliary source 2, set the AUX 2/MIC switch on the audio mixer section of the control panel to the AUX 2 position, and move the AUX 2/MIC fader.

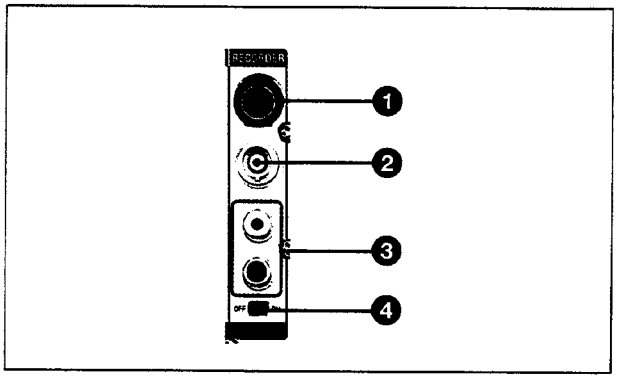
❷ 600 Ω termination switch

Set this switch to correspond to the connector type on the source connected to the AUX 2 AUDIO L/R INPUT connectors ❶, as follows.

ON: 600 Ω termination. Source connector is a Cannon XLR 3-pin connector.

OFF: 47 kΩ or above termination. Source connector is a phono jack.

6 RECORDER video/audio inputs



❶ RECORDER S VIDEO INPUT connector (mini-DIN 4-pin)

Connect to the S-video output connector of the recorder. When using this connector, under item 101 VIDEO INPUT SELECT in the setup menu set RECORDER to S-V. (The factory default setting is S-V.)

For details, see Chapter 8.

❷ RECORDER VIDEO INPUT connector (BNC)

Connect to the composite video output connector of the recorder. When using this connector, under item 101 VIDEO INPUT SELECT in the setup menu set RECORDER to V.

For details, see Chapter 8.

❸ RECORDER AUDIO L/R INPUT connectors (phono jack)

Connect the left and right channel audio outputs from the recorder.

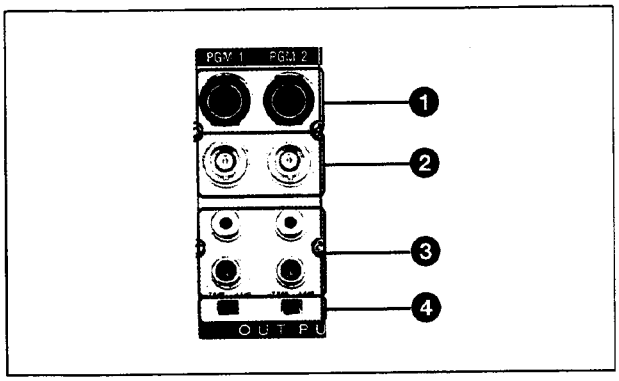
❹ 600 Ω termination switch

Set this switch to correspond to the connector type on the VCR connected to the RECORDER AUDIO L/R INPUT connectors ❸.

ON: 600 Ω termination. Source connector is a Cannon XLR 3-pin connector.

OFF: 47 kΩ or above termination. Source connector is a phono jack.

7 PGM (program) 1/2 video/audio outputs



These connectors output the program output, including all edits and special effects. The PGM 1 and PGM 2 connectors provide exactly the same video and audio signals.

❶ PGM (program) 1/2 S VIDEO OUTPUT connectors (mini-DIN 4-pin)

Connect to the S-video input connectors of the recorder or program monitor.

❷ PGM (program) 1/2 VIDEO OUTPUT connectors (BNC)

Connect to the composite video input connectors of the recorder or program monitor.

❸ PGM (program) 1/2 AUDIO L/R OUTPUT connectors (phono jack)

Connect to the left and right channel audio input connectors of the recorder or program monitor.

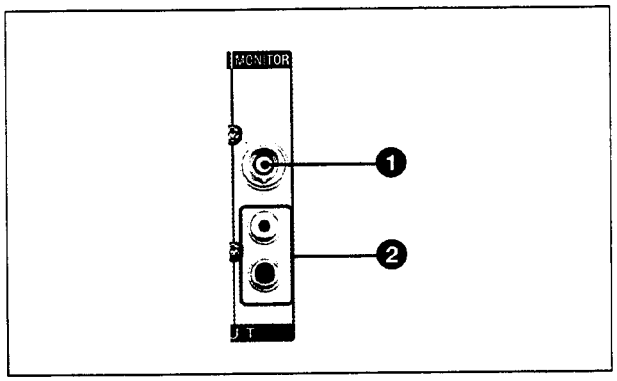
❹ –7.5 dB/+4 dB termination switches

Set the output level to –7.5 dBs or +4 dBs for output of standard audio signals from the PGM 1/2 AUDIO L/R OUTPUT connectors ❸ depending on the recorder connector type.

–7.5 dB: –7.5 dBs output [1] (when input impedance on recorder side is 47 kΩ). Set to this position when connector type is phono jack.

+4 dB: +4 dBs output [1] (when input impedance on recorder side is 600 Ω). Set to this position when connector type is Cannon XLR 3-pin.

8 MONITOR output section



These connectors output the signals selected using the MONITOR section and SOURCE section of the control panel.

❶ MONITOR VIDEO OUTPUT connector (BNC)

Connect to the composite video input connector of the video monitor used as the main monitor.

❷ MONITOR AUDIO L/R OUTPUT connectors (phono jack)

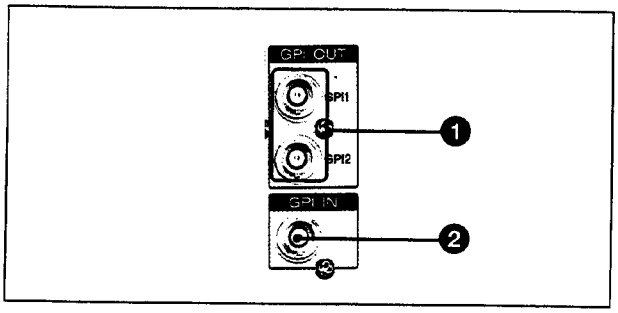
Connect to the left and right channel audio input connectors of the main monitor.

9 B.B OUT (black burst output) connectors (BNC)

These connectors provide black burst signals from the internal sync generator. For video synchronization with sources, connect these to the reference video input, sync input, or GEN LOCK connectors of the source equipment.

1) 0 dBs = 0.775 Vrms

10 GPI (general purpose interface) connectors



❶ GPI 1/2 OUT connectors (BNC)

These connectors output timing pulses for controlling the operation of a titler, computer, or other external device. You can adjust the timing of the pulses in units of one frame under items 307 GPI 1 TIMING and 308 GPI 2 TIMING in the setup menu.

For details, see Chapter 8.

❷ GPI IN connector (BNC)

When this unit is being controlled from external equipment such as another editor, connect this connector to the GPI output connector of the other equipment to input the timing pulses from the other equipment.

For details, see "GPI Interface Effect Timing" (page A-10).

11 EDL IN/OUT connector (D-sub 9-pin)

This connector transfers EDL (edit decision list) data. Connect it to the RS-232C connector of a computer or other external device equipped with an EDL management function.
Select input or output of the data under item 311 EDL SWITCH in the setup menu.

For details, see Chapter 8.

12 AC IN connector

Connect the unit to a 120 V AC power supply using the AC power cord supplied.

Chapter 3
Preparations

This chapter explains connections, VCR preparations and precautions to observe when using this unit.

Precautions **3-2**
Connections **3-3**
Player 1 and Player 2 VCR Connections 3-3
Recorder VCR Connections 3-4
Main Monitor and Program Monitor Connections 3-5
Video Camera, CD Player and Microphone Connections 3-6
Titler, Computer and Editing Controller Connections 3-7
Switch Settings and System Setup 3-8
About the Status Display **3-10**
VCR Preparations **3-15**

Precautions

Safety precautions

Power

Operate the unit on:

- 120 V AC, 50/60 Hz (FXE-100)
- 220-240 V AC, 50/60 Hz (FXE-100P).

Do not place or drop heavy objects on the power cord. Protect the cord from damage. Using a damaged power cord is dangerous. Do not grasp the cord when pulling out of a power outlet. Grasp by the plug.

Do not disassemble

Do not open the cabinet. There is a danger of shock if you touch the parts inside the unit.

Do not drop foreign objects into the unit

Do not drop flammable or metal objects into the unit. Protect from water and liquids. Foreign objects dropped into the unit can cause malfunctions.

In case of trouble

If you notice unusual noises, smells, or smoke coming from the unit, turn it off immediately. Pull the power plug from the outlet, disconnect external equipment and contact your Sony dealer or qualified Sony service personnel.

Usage precautions

Operating and storage conditions

Avoid using or storing the unit in places which are

- very hot or cold (operating temperature range 5°C to 40°C or 41°F to ſ04°F).
- exposed to direct sunlight, or near heaters.
- damp or dusty.
- subject to severe vibrations.
- near equipment generating strong electromagnetic emissions.
- near transmitting stations generating strong radio waves.

Protect from shocks

Avoid dropping the unit or subjecting it to strong shocks.

Maintenance

Clean the cabinet and panels by wiping with a soft, dry cloth. Remove severe stains by wiping with a cloth moistened with a neutral solvent, then wipe with a soft, dry cloth. Do not clean with alcohol, benzine, thinner, or other volatile liquids. Doing so may damage the paint or finish.

Transporting the unit

When transporting the unit, protect from shocks by packing in the supplied carton or a comparable case.

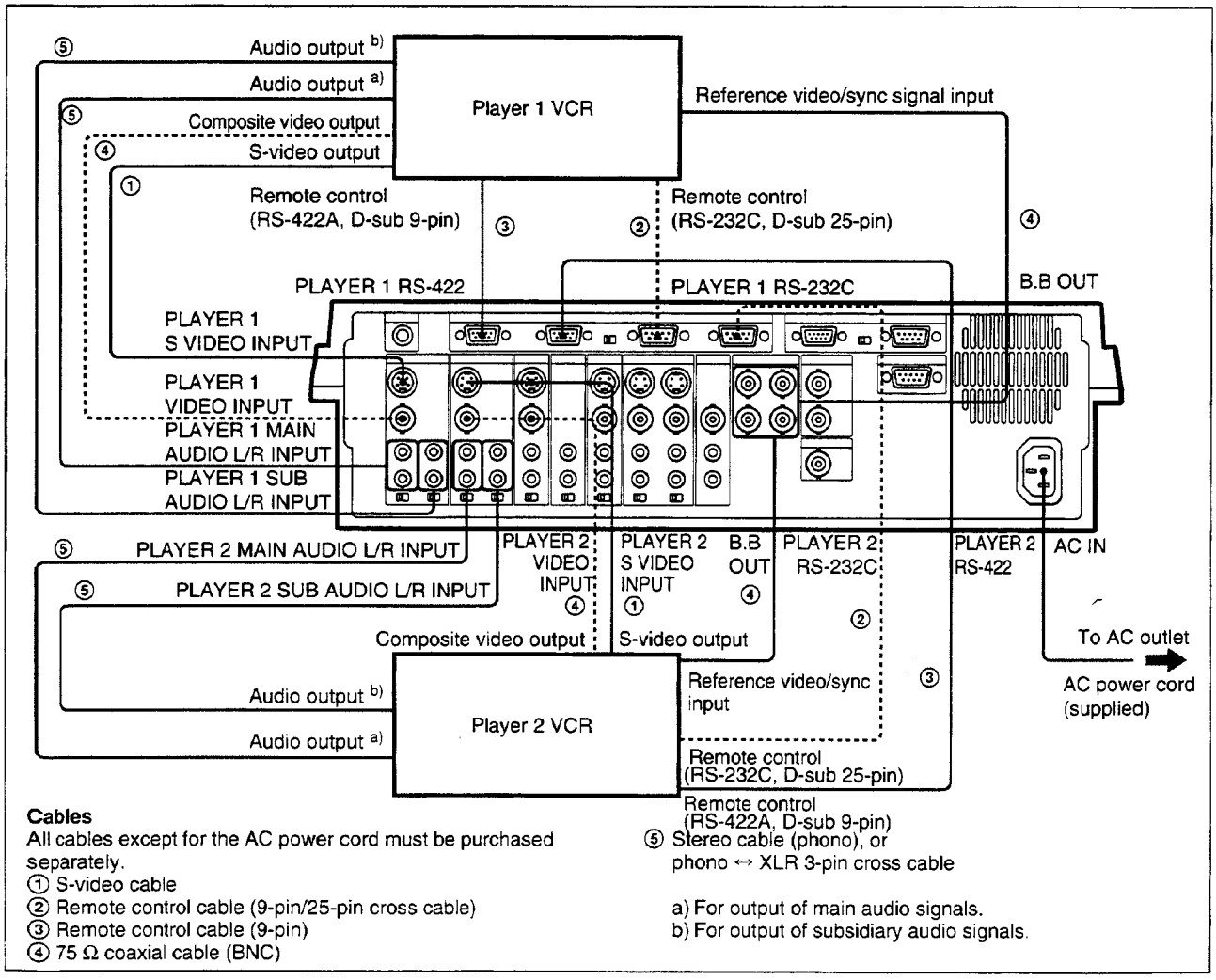
Connections

This section describes connections to VCRs and other external equipment.

For more information about configuring a system for a particular purpose, see "System Configuration Examples" (page 1-6).

Player 1 and Player 2 VCR Connections

Connect two players to perform A/B roll editing. Cut editing and A-roll editing are possible using one player.


⑤ Audio output b)
Audio output a)
⑤ Composite video output
④ S-video output
① Remote control (RS-422A, D-sub 9-pin)
Player 1 VCR
Reference video/sync signal input
③
② Remote control (RS-232C, D-sub 25-pin)
④
PLAYER 1 RS-422
PLAYER 1 RS-232C
B.B OUT
PLAYER 1 S VIDEO INPUT
PLAYER 1 VIDEO INPUT
PLAYER 1 MAIN AUDIO L/R INPUT
PLAYER 1 SUB AUDIO L/R INPUT
⑤ PLAYER 2 MAIN AUDIO L/R INPUT
⑤ PLAYER 2 SUB AUDIO L/R INPUT
PLAYER 2 VIDEO INPUT ④
PLAYER 2 S VIDEO INPUT ①
PLAYER 2 B.B OUT ④
PLAYER 2 RS-232C ②
PLAYER 2 RS-422
AC IN
To AC outlet
AC power cord (supplied)
Composite video output
S-video output
Audio output b)
Audio output a)
Player 2 VCR
Reference video/sync input
③
Remote control (RS-232C, D-sub 25-pin)
Remote control (RS-422A, D-sub 9-pin)
⑤ Stereo cable (phono), or phono ↔ XLR 3-pin cross cable
a) For output of main audio signals.
b) For output of subsidiary audio signals.

Cables
All cables except for the AC power cord must be purchased separately.
① S-video cable
② Remote control cable (9-pin/25-pin cross cable)
③ Remote control cable (9-pin)
④ 75 Ω coaxial cable (BNC)

Player 1 and player 2 VCR connections

Notes

- Depending on the connectors utilized here or on the connected equipment, settings may have to be changed on the connector panel or in the setup menu.

  For details, see "Switch Settings and System Setup" (page 3-8).

- After connecting the player and recorder VCRs, press the LEARN button on the control panel.

  For details about the LEARN button, see "Measuring pinch-on delay" (page 3-15).

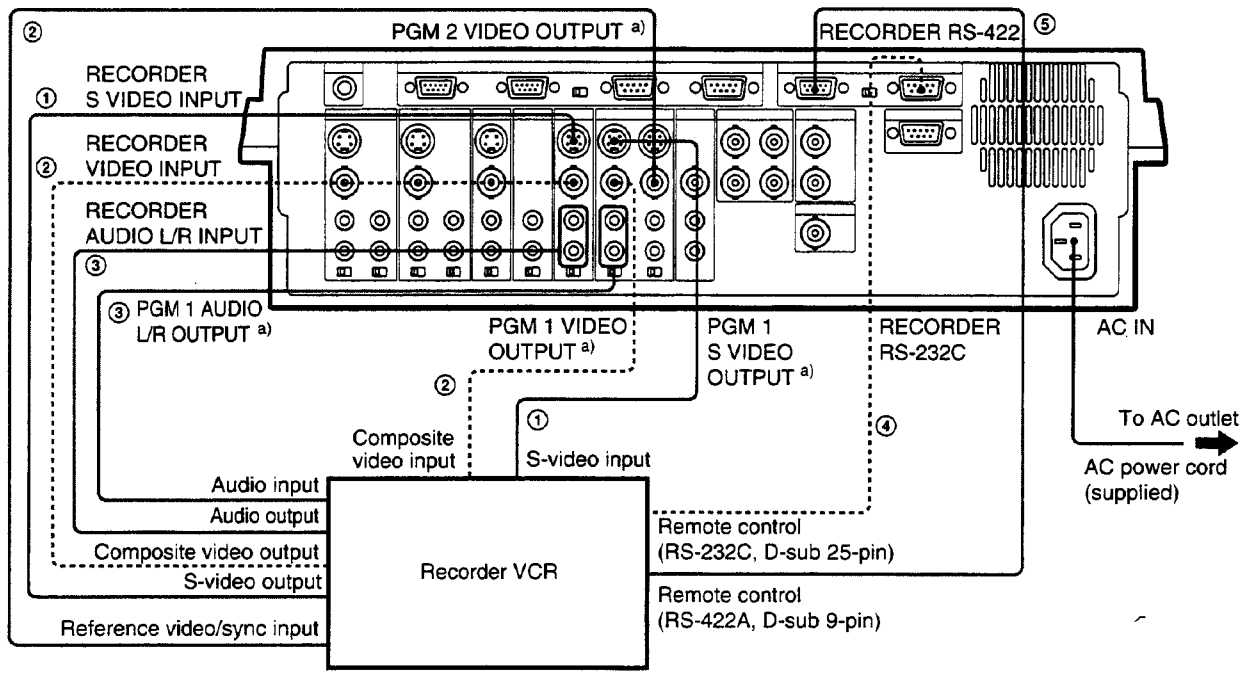
- Depending on the connected VCRs, device constants may have to be set using setup menu items 401 and 402.

  For details, see Chapter 8.

Recorder VCR Connections

When the recorder's video and audio output connectors are connected to this unit's RECORDER INPUT connectors, freeze frame video may be input from the recorder to carry out mixes and wipes during A-roll editing. Also, signals can be input from the recorder in order to check the contents of the master tape on the main monitor.

For more information about monitor connections, see "Main Monitor and Program Monitor Connections" (page 3-5).



Cables

All cables except for the AC power cord must be purchased separately.

① S-video cable
② 75 Ω coaxial cable (BNC)
③ Stereo cable (phono), or phono ↔ XLR 3-pin cross cable
④ Remote control cable (9-pin/25-pin cross cable)
⑤ Remote control cable (9-pin)

a) PGM 1 and PGM 2 output the same signals. Either may be connected as convenient.

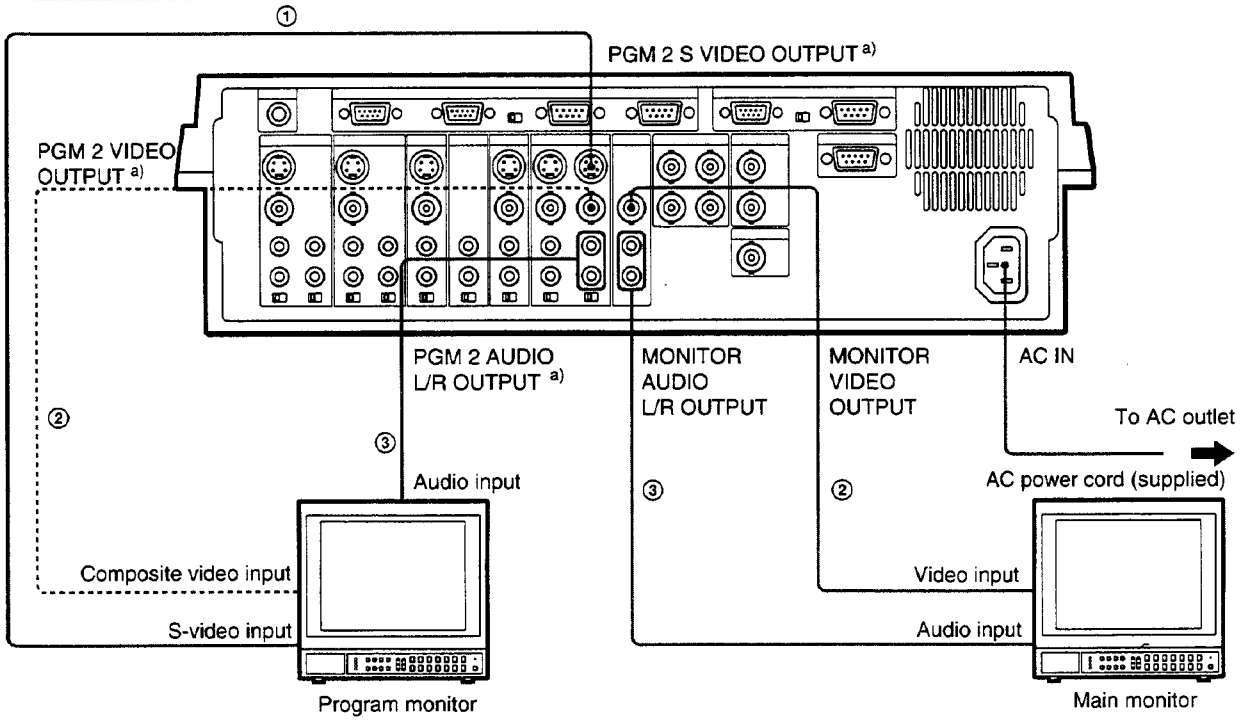
Recorder VCR connections

Notes

- As input to the recorder's reference video input connector, use signals from this unit's PGM 1/2 VIDEO OUTPUT connectors instead of signals from the B.B OUT connector.
- If the correct recorder freeze frame cannot be read in during A-roll editing, adjust the timing of freeze frame input under item 108 A-ROLL TIMING OFFSET in the setup menu.
- Depending on the connectors utilized here or on the connected equipment, settings may have to be changed on the connector panel or in the setup menu.
  For details, see "Switch Settings and System Setup" (page 3-8).
- After connecting the player and recorder VCRs, press the LEARN button on the control panel.
  For details about the LEARN button, see "Measuring pinch-on delay" (page 3-15).
- Depending on the connected VCR, a device constant may have to be set using setup menu item 403.
  For details, see Chapter 8.

Main Monitor and Program Monitor Connections

Connecting a monitor to each VCR allows you to monitor the video and audio of each VCR continuously. But this unit is also equipped with a MAIN MONITOR connector, which allows you to monitor preview signals, program signals, and the signals of the connected VCRs.
A program monitor may be connected in order to monitor the signals that are sent to the recorder.



Cables
All cables except for the AC power cord must be purchased separately.
① S-video cable
② 75 Ω coaxial cable (BNC)
③ Stereo cable (phono)

a) PGM 1 and PGM 2 output the same signals. Either may be connected as convenient.

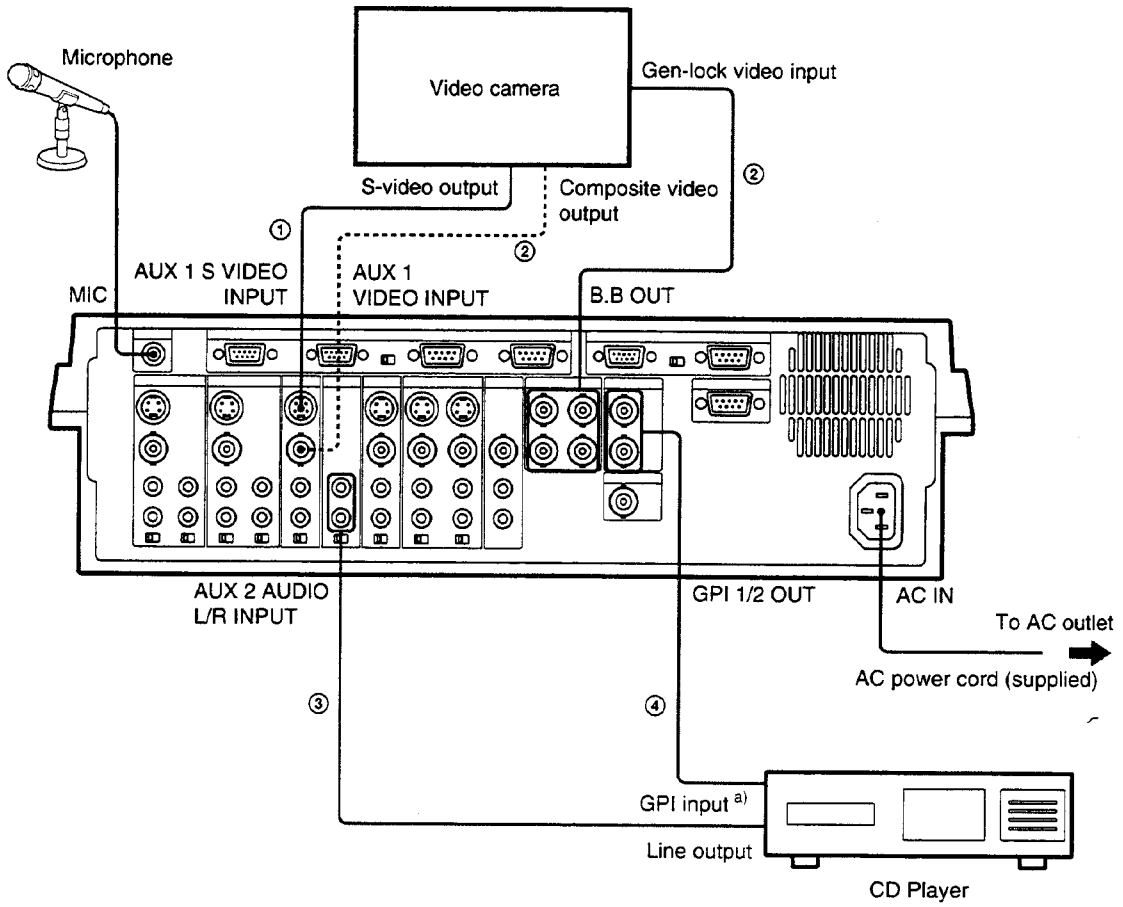
Main monitor and program monitor connections

Note

Depending on the connectors utilized here or on the connected equipment, settings may have to be changed on the connector panel or in the setup menu.

For details, see "Switch Settings and System Setup" (page 3-8).

Video Camera, CD Player and Microphone Connections



Cables
All cables except for the AC power cord must be purchased separately.
① S-video cable
② 75 Ω coaxial cable (BNC)
③ Stereo cable (phono)
④ Remote control cable (BNC ‹ › minijack cross cable)

a) For CD players equipped with a GPI interface, the timing of transitions from pause to playback can be controlled from this unit. CD players without a GPI input connector must be controlled manually.

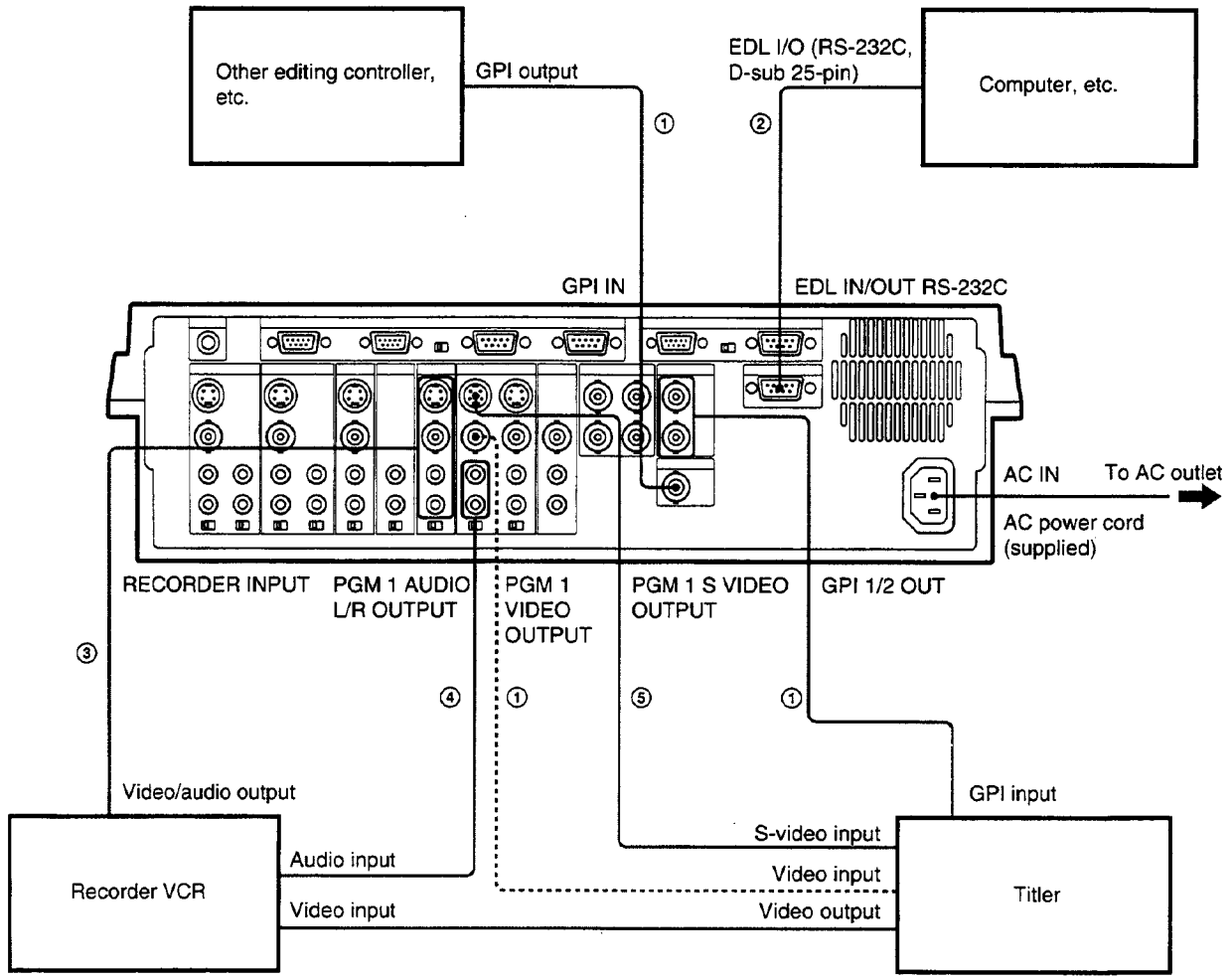
Video camera, CD player and microphone connections

Note

Depending on the connectors utilized here or on the connected equipment, settings may have to be changed on the connector panel or in the setup menu.

For details, see "Switch Settings and System Setup" (page 3-8).

Titler, Computer and Editing Controller Connections



Cables
All cables except for the AC power cord must be purchased separately.
① Coaxial remote control cable (BNC)
② Remote control cable (9-pin/25-pin cross cable)
③ • S-video cable
• 75 Ω coaxial cable (BNC)
• Stereo cable (phono), or phono ↔ XLR 3-pin cross cable
④ Stereo cable (phono), or phono ↔ XLR 3-pin cross cable
⑤ S-video cable

Titler, computer and editing controller connections

Note

Depending on the connectors utilized here or on the connected equipment, settings may have to be changed on the connector panel or in the setup menu.

For details, see "Switch Settings and System Setup" (page 3-8).

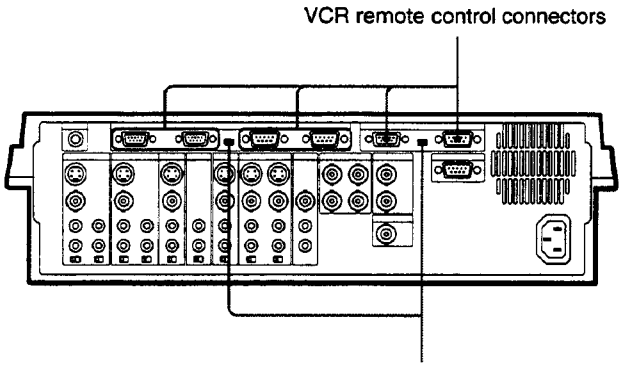
Switch Settings and System Setup

Depending on which connectors are used on the connector panel, and the type of connectors used by connected equipment, it may be necessary to set connector panel switches or change settings in the setup menu.
This section explains the correct settings for each group of connectors.

For details regarding the setup menu, see Chapter 8.

VCR remote control connectors

Set the RS-422/RS-232C switch as follows, depending on the connector used to control the VCR.



Connector used	RS-422/RS-232C switch setting
RS-422	RS-422
RS-232C	RS-232C

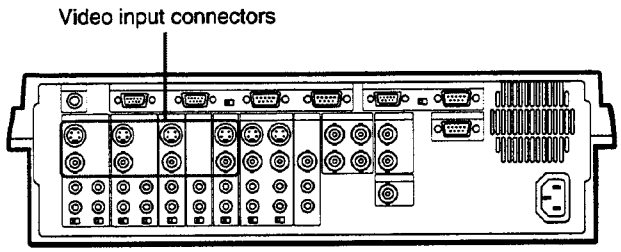
VCR remote control connectors and RS-422/RS-232C switches

Notes

- Always connect the same connectors for both player 1 and player 2. For example, it is not possible to connect player 1 using the RS-232C connector and player 2 using the RS-422 connector.
- Always turn the unit off before changing the RS-422/RS-232C switch setting. If you have changed the setting with the power on, turn unit off and power up again.

Video input connectors

Set item 101 "VIDEO INPUT SELECT" in the setup menu as follows, depending on the connectors used for video input.



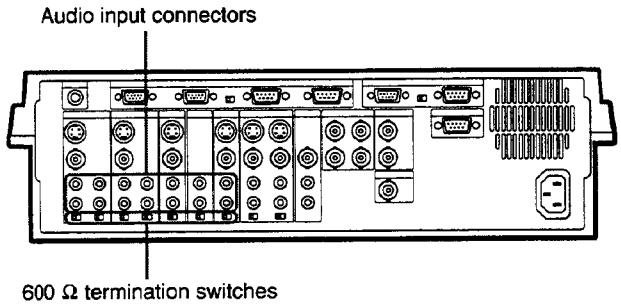
Connector used	Menu item 101 VIDEO INPUT SELECT setting
S VIDEO	S-V [a]
VIDEO	V

a) Factory preset to S-V

Video input connectors and VIDEO INPUT SELECT setting

Audio input connectors

Set the 600 Ω audio input termination switches as follows, depending on the type of audio output connectors on the connected equipment.

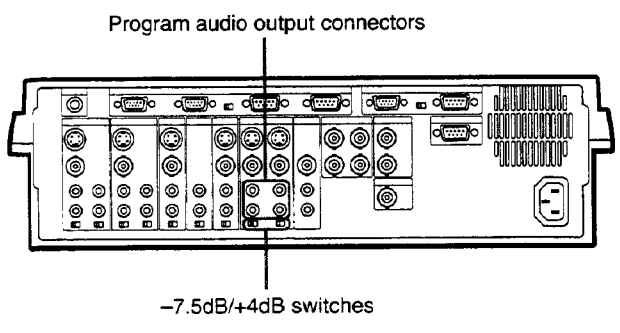


Type of connector on connected equipment	600 Ω termination switch setting
Phono jack	OFF
Cannon XLR 3-pin	ON

Audio input connectors and 600 Ω termination switches

Program audio output connectors

Set the –7.5dB/+4dB audio output switches as follows, depending on the type of audio input connectors on the connected equipment.

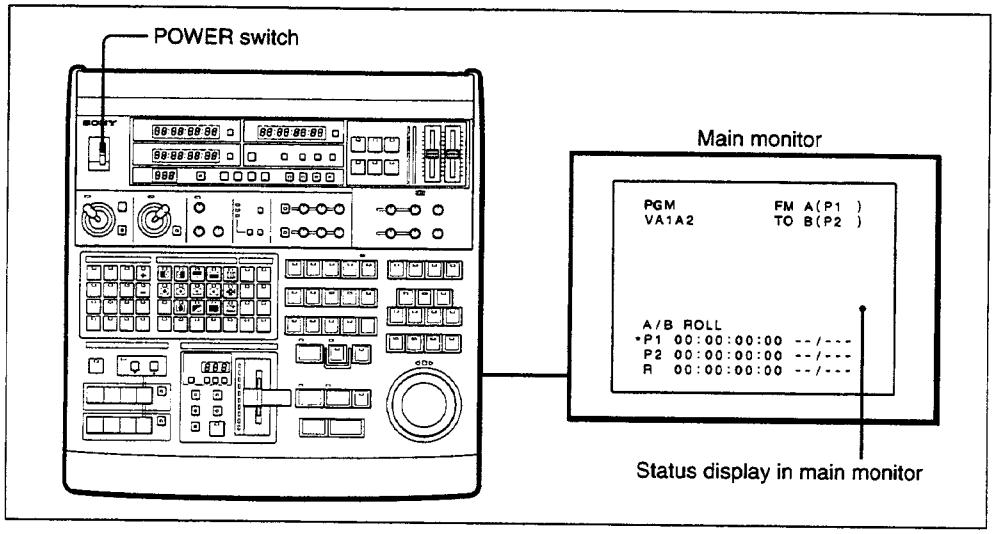


Type of connector on connected equipment	–7.5dB/+4dB switch setting
Phono jack	–7.5dB
Cannon XLR 3-pin	+4dB

Program audio output connectors and –7.5dB/+4dB switches

About the Status Display

When you turn on this unit and the main monitor, the following information is displayed to indicate the current edit mode, sources, and edit points.



Status display

Notes

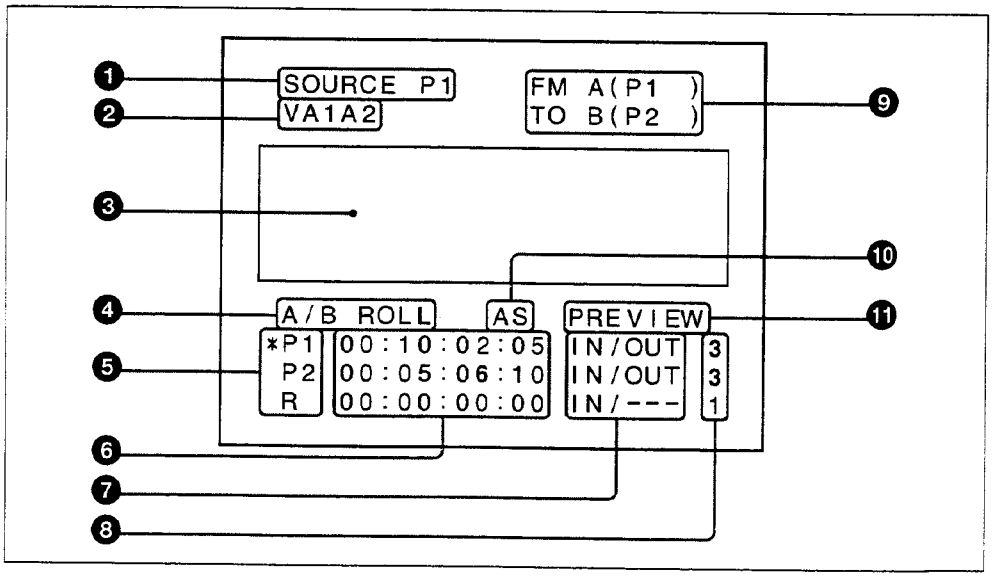
- Due to limitations of the connected VCRs, "V" may appear instead of "VA1A2" when you turn the unit on. In some cases, if tapes are write inhibited, nothing at all may appear.
- If you connect a VCR without time base corrector (TBC) circuits, the status display may fluctuate during still playback.

Interpreting the status display

This section lists the information which appears in each section of the status display.

- See the page numbers given in parentheses after each item for detailed explanations of display items or related procedures.
- The following abbreviations are used for sources and the recorder.

P1: Player 1 **R:** Recorder
P2: Player 2 **AUX:** Auxiliary source 1



Information in status display

❶ Monitor signal area (page 4-11)

Displays the source of the signals selected with the buttons in the MONITOR section and currently being output from the MONITOR OUTPUT connectors to the main monitor.

SOURCE P1 (P2, R-VTR, AUX): A source selected with the SOURCE button in the MONITOR section and the buttons in the SOURCE section
PGM: The same signals as are output from the PGM 1/2 OUTPUT connectors
A-BUS P1 (P2, AUX): The source selected for bus A
B-BUS P1 (P2, AUX): The source selected for bus B

❷ Edit mode area (page 5-3)

Displays the mode selected in the EDIT MODE section.

VA1A2: Signal channel(s) selected with insert mode buttons (V: Video channel, A1: Audio channel 1, A2: Audio channel 2)
ASMBL: Assemble mode
1ST-EDIT: First edit mode
TC-INS: Time code insert mode

❸ Error message area (page A-2)

Error messages are displayed here.

❹ Edit type area (page 5-9)

Displays the edit type selected in the EDIT TYPE section.

CUT P1 (P2, AUX): Cut edit using P1, P2, or AUX on bus A
A-ROLL P1 (P2, AUX): A-roll edit using P1, P2, or AUX on bus A
A/B ROLL: A/B roll edit
MANUAL: Manual effects edit
SYNC-ROLL: Sync roll edit

❺ Selected VCR (page 4-2)

- An asterisk (*) precedes the name of the selected VCR.
- When auxiliary source 1 is selected by pressing the AUX button in the SOURCE section, "R" changes to "AUX".

❻ Time data area (page 5-13)

- Displays the IN point, OUT point and duration for each VCR in (hours: minutes: seconds: frames) format.

Note

Time code displayed in this area may be slightly later than time code signals actually recorded on the tape. If you want to superimpose time code on signals sent to the MONITOR OUTPUT connectors for use in off-line editing, use a time code reader.

With the FXE-100, a period (.) is displayed instead of a colon (:) between minutes and seconds when drop-frame mode time code is found on the recorded tape.

Example: 00:10.02:05
↑
Drop-frame mode time code was found on the recorded tape. This period is displayed regardless of the setting of setup menu item 110 FRAME CONTROL MODE (FXE-100 only).

A period (.) is displayed instead of a colon (:) between seconds and frames when time code has been interpolated from CTL signals because time code signals could not be read from the tape.

Example: 00:10:02.05
↑
Indicates that time code data has been interpolated from CTL signals.

- Displays the split offset (distance between video IN point and audio IN point) during split editing.

For details, see "Setting Independent Video and Audio IN Points—Split Editing" (page 6-8).

- Displays initial DT speed in DMC editing.

For details, see "Editing Variable-Speed Playback—DMC Editing" (page 6-13).

❼ Edit points area (page 5-13)

- Indicates whether or not IN/OUT points have been set for sources and recorder.
  IN/– – –: IN point is set.
  – –/OUT: OUT point is set.
  IN/OUT: IN and OUT points are set.
  – –/– – –: IN and OUT points are not set.
- Indicates the type of data displayed in the time data area ❻ when the IN, OUT or DUR button in the AUTO CONTROL section are pressed.
  IN: IN point is being displayed.
  OUT: OUT point is being displayed.
  DUR: Duration is being displayed.
- In numeric keypad mode, indicates the type of data being entered.
  SET IN: IN point is being entered.
  SET OUT: OUT point is being entered.
  SET DUR: Duration is being entered.

❽ Sync grade display (page 5-65)

Displays the synchronizing precision selected with item 301 SYNC GRADE in the setup menu, when setup menu item 303 SYNC GRADE DISPLAY is set to ON. Note that the factory default setting for this item is OFF, for no sync grade display.

1: ACCURATE
2: +/–1 FRAME
3: ROUGH
4: PREROLL & PLAY

For details, see Chapter 8.

❾ FROM source/TO source area (page 5-60)

When two sources are used, displays which signals are replaced during a transition.

FM: FROM source
TO: TO source
A: A bus
B: B bus
P1, P2, AUX: Source name

❿ "AS" area (page 6-9)

Shown when split editing (Audio Split) has been selected.

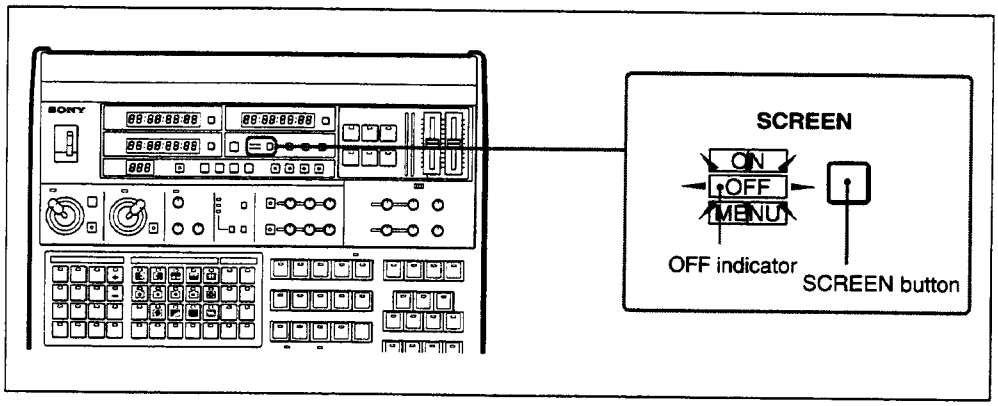
⓫ Operation area

Shows the current operation.

PREVIEW: Preview (page 5-61)
AUTO EDIT: Automatic edit execution (page 5-63)
REVIEW: Review (page 5-68)
AUTO ASM: Automatic assembly (page 5-66)

To turn off the main monitor status display

Press the SCREEN button until the OFF indicator lights.



Turning off the status display

VCR Preparations

After connecting the VCRs, carry out the following preparations.

For more information about settings on the VCR side, please consult your VCR manuals.

- Insert a cassette.
- Set the REMOTE/LOCAL switch to REMOTE.
- Adjust the following:

Player VCRs

Audio playback level
Tracking
Skew

Recorder VCR

Video recording level
Audio recording level
Tracking

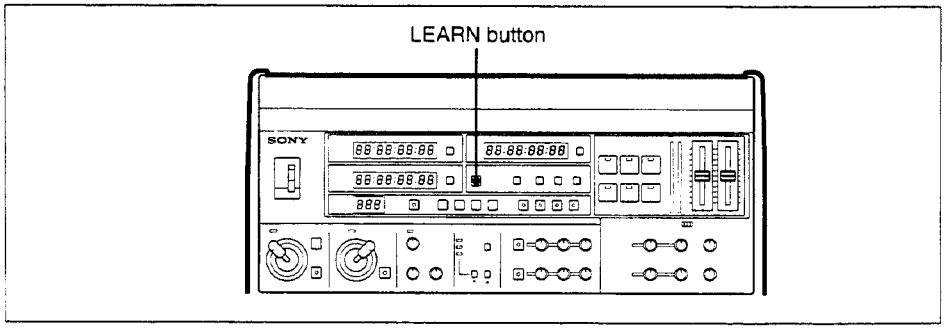
Measuring pinch-on delay

When a VCR receives a tape transport command, the tape does not begin to move instantly. A certain amount of time, called the pinch-on delay, is required for the mechanical process of initiating tape transport. This unit has a function for measuring the pinch-on delay for up to three VCRs, connected to the PLAYER 1, PLAYER 2, and RECORDER RS-422 and RS-232C connectors. Measurement data is held in memory and used by the unit to synchronize VCRs as quickly as possible. After connecting the VCRs, be sure to press the LEARN button.

After connecting the VCRs, be sure to measure the pinch-on delay as follows.

1 Insert tapes into each of the VCRs connected to the RS-422 and RS-232C connectors.

2 Press the LEARN button on the control panel, turning it on.



Measuring pinch-on delay

The VCRs begin to run, and the delay is measured automatically.
Measurement data is held in memory for about one week after the unit is turned off.
A check of preroll times which have been selected for each of the VCRs in the setup menu is also carried out. If the preroll times are too short, error codes are displayed in the corresponding time counter displays.

Chapter 4
Before Starting to Edit

This chapter covers several topics which you will need to master before starting to edit, such as how to control the VCRs and how to select and adjust audio and video signals.
If you have little or no experience in video editing, we recommend that you read through this entire chapter in order to acquaint yourself with these basic editing operations.
If you are experienced in video editing, but have little or no experience in operating video switchers or audio mixers, you should read through the latter half of this chapter, beginning with "Selecting Video and Audio Signals" (page 4-7).

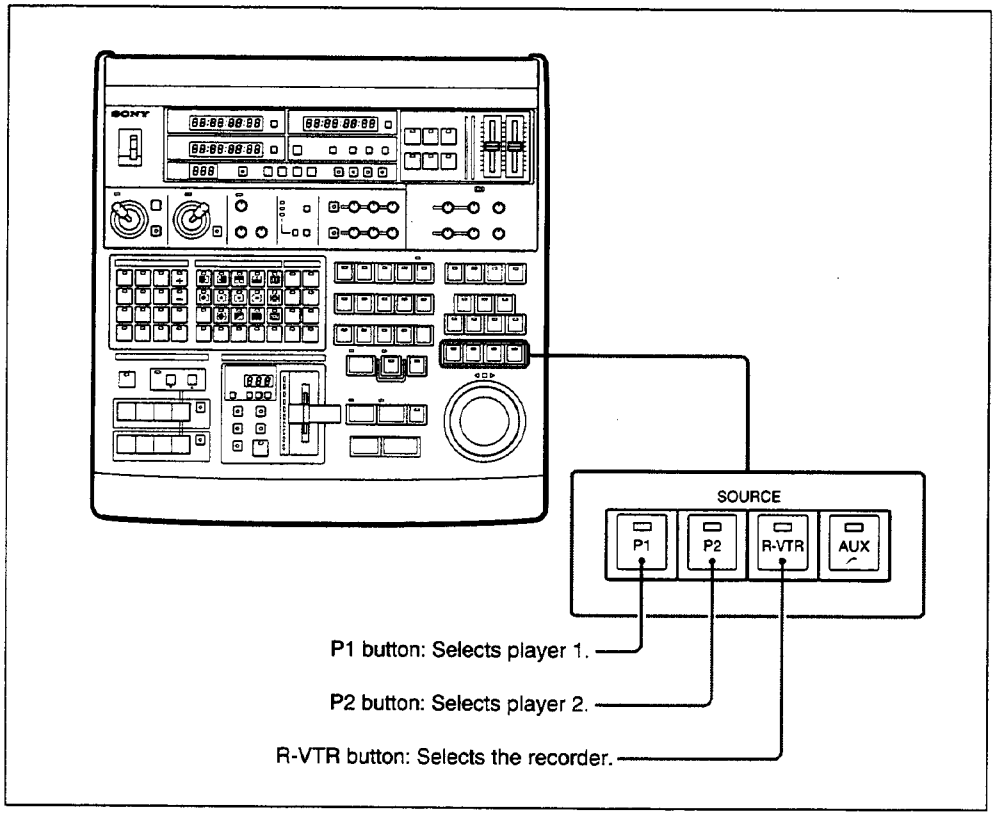
Controlling the VCRs 4-2
Selecting a VCR 4-2
Controlling Tape Transport Manually 4-3
Searching for a Scene With the Search Dial 4-4
Controlling the Speed of Dynamic Tracking (DT) Playback 4-6
Selecting Video and Audio Signals 4-7
Default Input and Output Signals 4-8
Selecting the Same Source for Video and Audio Inputs to a Bus 4-9
Selecting Different Sources for Video and Audio Inputs to a Bus 4-10
Monitoring Video and Audio Signals 4-11
Adjusting Video and Audio Signals 4-15
Adjusting Video Signals 4-15
Adjusting Audio Levels 4-16

Controlling the VCRs

The following section explains how to use this unit for manual control of two player VCRs and one recorder VCR, connected to the PLAYER 1/2 RS-422/ RS-232C connectors and the RECORDER RS-422/RS-232C connectors on the connector panel.

Selecting a VCR

When setting VCR edit points, or manually controlling VCR tape transport from this unit, select the VCR for each operation by pressing one of the P1, P2 or R-VTR buttons in the SOURCE section of the control panel.



Selecting a VCR

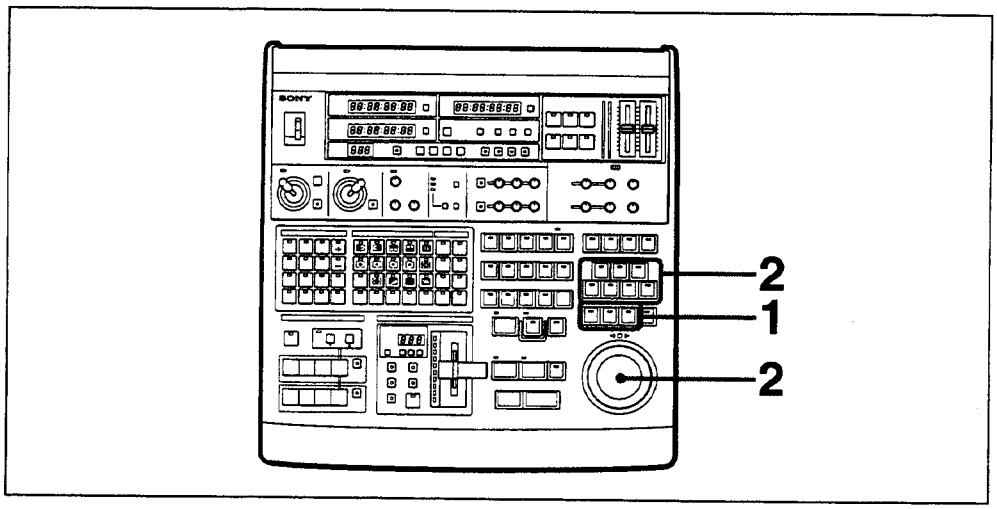
The button lights when you press it, and a '*' mark appears beside the selected VCR in the status display of the main monitor screen.

For details, see "About the Status Display" on page 3-10.

Controlling Tape Transport Manually

When controlling tape transport manually from this unit, you can select two or three VCRs for simultaneous operation. This means that if you connect a monitor to each VCR, you can view playback and search for edit points on up to three VCRs simultaneously. Compared to a system with only one monitor, this configuration eliminates the need to switch back and forth between VCRs to view video output.

For details, see "Monitoring Video and Audio Signals" (page 4-11).



Controlling tape transport manually

1 Select a VCR with a button from the SOURCE section (P1, P2, R-VTR).

2 According to the operation, press one of the buttons in the MANUAL CONTROL section (the button lights), or use the search dial.

- **Using the MANUAL CONTROL buttons**

REC button: Hold down this button and press the PLAY button when you wish to record output signals from the PGM 1/2 OUTPUT connectors without making any edit settings.
This button works only when the R-VTR button in the SOURCE section is lit, and it affects only the recorder.

SPEED, MK-SPD (= SHIFT + SPEED) and DMC buttons: Use these buttons to control VCRs with dynamic tracking capability in Dynamic Motion Control (DMC) mode.

For more information about Dynamic Motion Control, see "Controlling the Speed of Dynamic Tracking (DT) Playback" (page 4-6) and "Editing Variable-Speed Playback — DMC Editing" (page 6-13).

PLAY button: Press to begin playback.

(Continued)

STB OFF (= SHIFT + PLAY) button: Press to put a paused VCR into standby off mode (in order to protect the tape and heads while you take an appreciable break from editing).
STILL button: Press to put a VCR into still picture playback mode.
EJECT (= SHIFT + STILL) button: Press to eject a cassette.
REW button: Press to rewind a tape.
FF button: Press to fast forward a tape.
STOP (= SHIFT + FF) button: Press to stop a VCR.

- **Using the search dial**
  Use the search dial to search for a scene at convenient playback speeds.

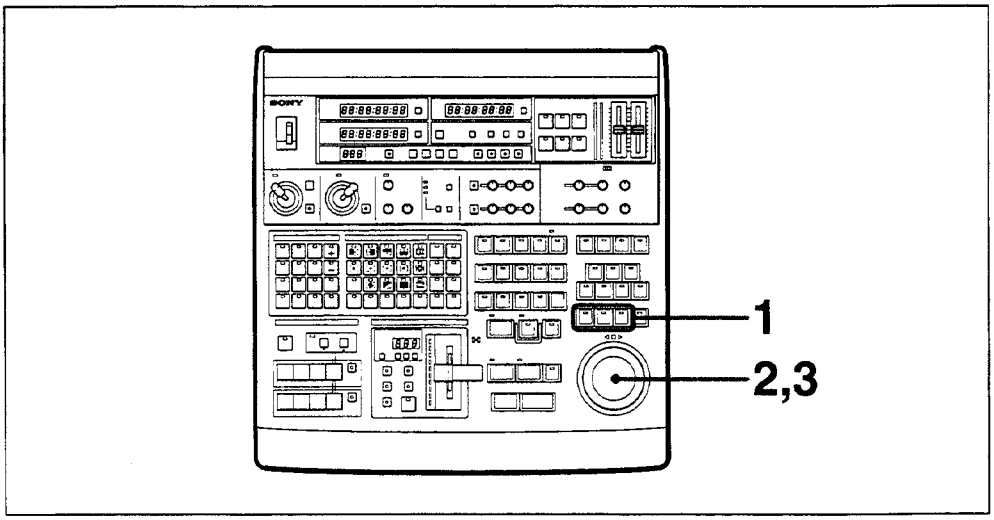
  For details, see "Searching for a Scene With the Search Dial" below.

3 Repeat steps **1** and **2** to control other VCRs. You can control up to three VCRs simultaneously.

Searching for a Scene With the Search Dial

When setting edit points, you can increase your editing efficiency by using the search dial to play back the tape at different speeds.
Each time you press the search dial, it changes from a raised to a depressed position, or the reverse. With the dial in the raised position, you can play back the tape at high speed in the forward or reverse directions (shuttle mode). With the dial in the depressed position, you can play back the tape in frame-by-frame manner in the forward or reverse directions (jog mode).

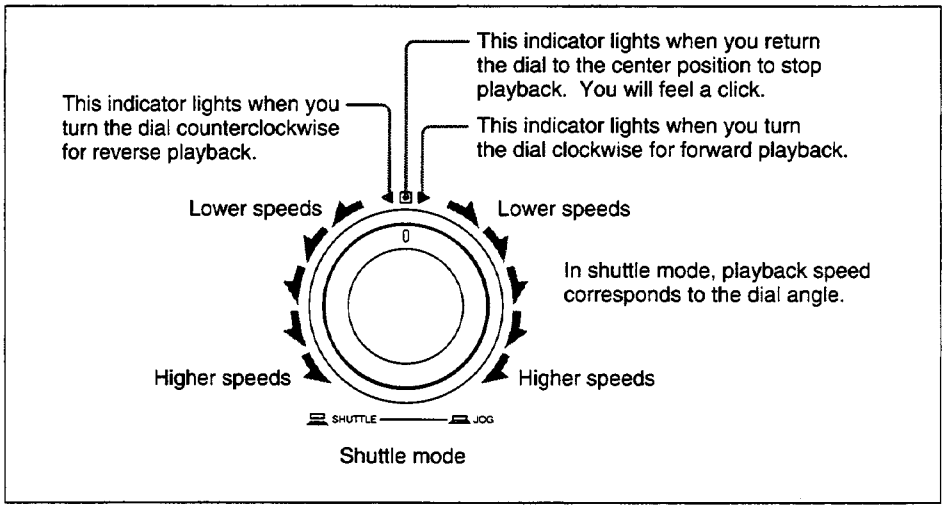
By combining shuttle and jog modes, you can locate scenes on the tape quickly and efficiently.



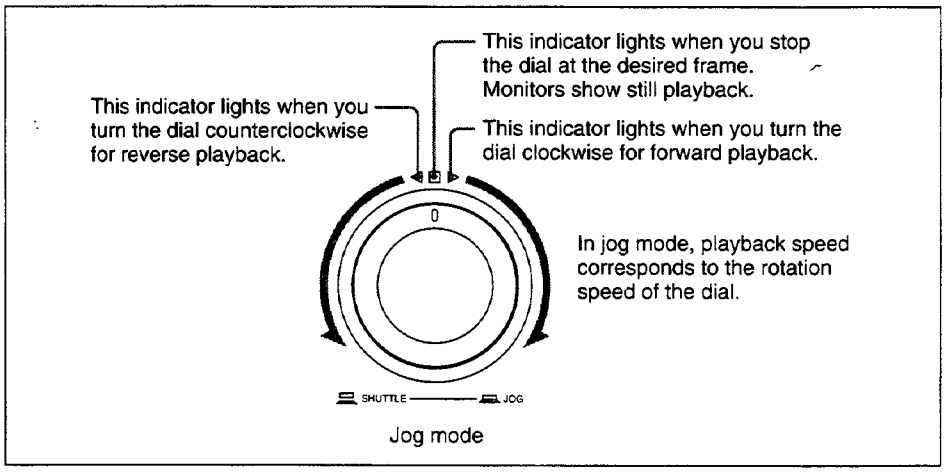
Searching for a scene with the search dial

1 Select a VCR with a button from the SOURCE section (P1, P2, R-VTR).

2 With the search dial in the raised position (shuttle mode), turn the dial clockwise or counterclockwise for high-speed playback. When you find the desired scene, return the dial to the center position to stop playback.


This indicator lights when you return the dial to the center position to stop playback. You will feel a click.
This indicator lights when you turn the dial counterclockwise for reverse playback.
This indicator lights when you turn the dial clockwise for forward playback.
Lower speeds
Lower speeds
In shuttle mode, playback speed corresponds to the dial angle.
Higher speeds
Higher speeds
SHUTTLE
JOG
Shuttle mode

3 Press the search dial down to the depressed position (jog mode), and turn the dial clockwise or counterclockwise to play back the tape frame by frame. When you find the desired frame, stop the dial at that position.

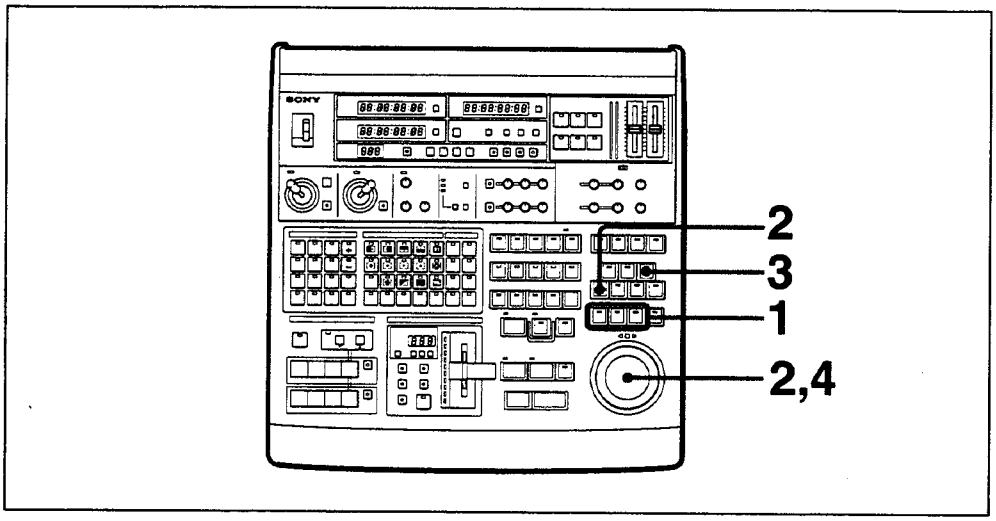

This indicator lights when you stop the dial at the desired frame. Monitors show still playback.
This indicator lights when you turn the dial counterclockwise for reverse playback.
This indicator lights when you turn the dial clockwise for forward playback.
In jog mode, playback speed corresponds to the rotation speed of the dial.
SHUTTLE
JOG
Jog mode

Note

The range of controllable playback speeds may differ in both jog and shuttle modes, depending on the capabilities of the connected VCRs.

Controlling the Speed of Dynamic Tracking (DT) Playback

This unit supports Dynamic Motion Control (DMC). If your player VCRs support Dynamic Tracking (DT) playback, you can use the search dial to control tape speed for noiseless, variable-speed playback within their DT playback range.



Controlling DT playback speed

1 Select a VCR with a button from the SOURCE section (P1, P2, R-VTR).

2 Rotate the search dial or press the PLAY button in the MANUAL CONTROL section to begin playback.

3 Stop the dial at the scene where you wish to begin DT playback, and press the DMC button in the MANUAL CONTROL section, turning it on.

The selected VCR enters DMC mode.

4 Press the search dial to put it into shuttle mode, and rotate it to control the speed of DT playback.

In DMC mode, tape speed varies between –1 to +3 times normal speed, according to the angle of the dial. However, actual speeds may differ slightly, depending on the capabilities of the connected VCRs.

Selecting Video and Audio Signals

This section is a preliminary introduction to the video switching and audio mixing features of this unit. It explains how to select input and output signals, how to adjust them, and how to monitor program signals on the main and program monitors.

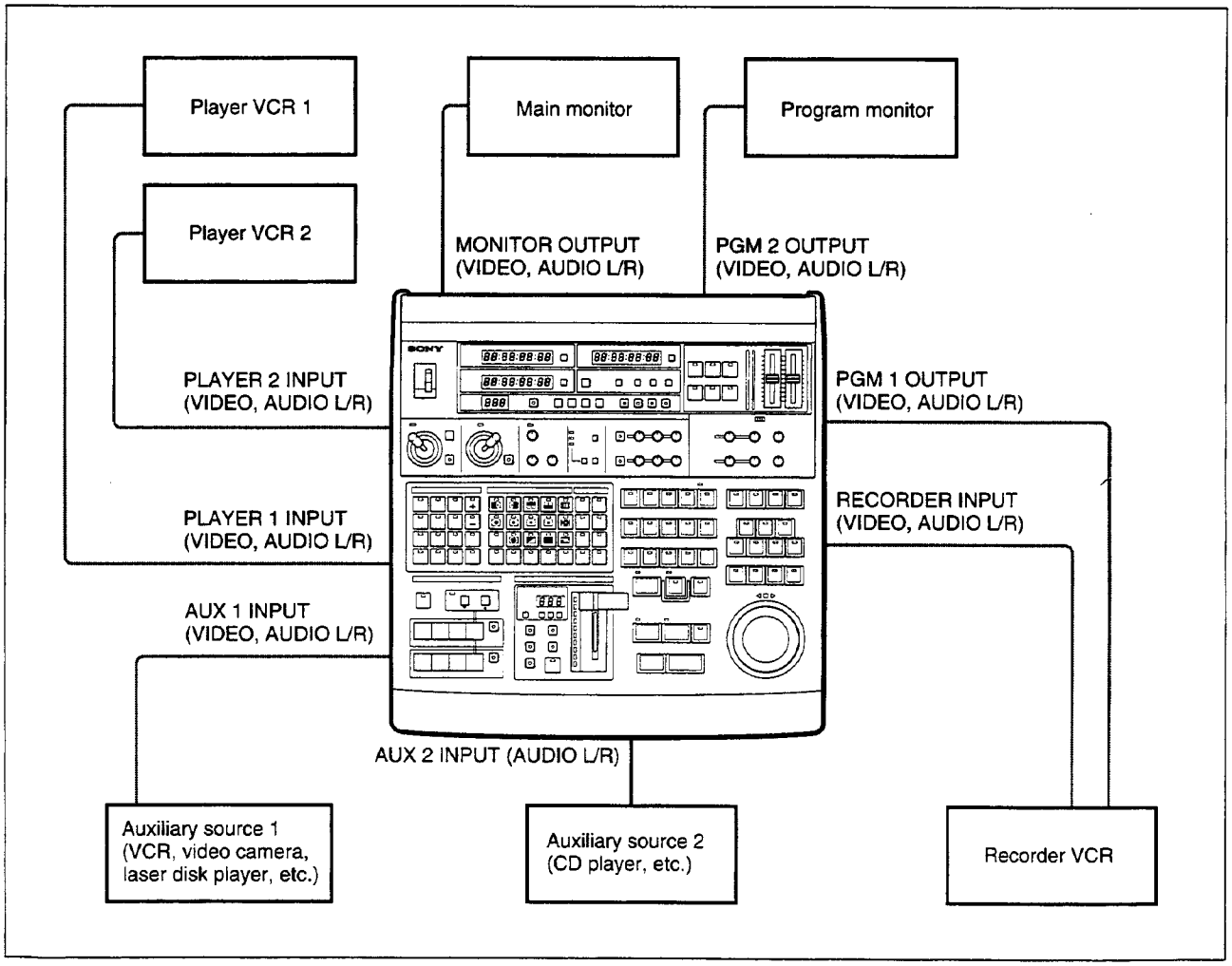
For more information about input and output of audio signals, see "Audio Signal Flow " in the Appendixes (page A-7).

The following explanations assume a system configured as shown below.

Note

Some settings may differ depending on the connected VCRs.

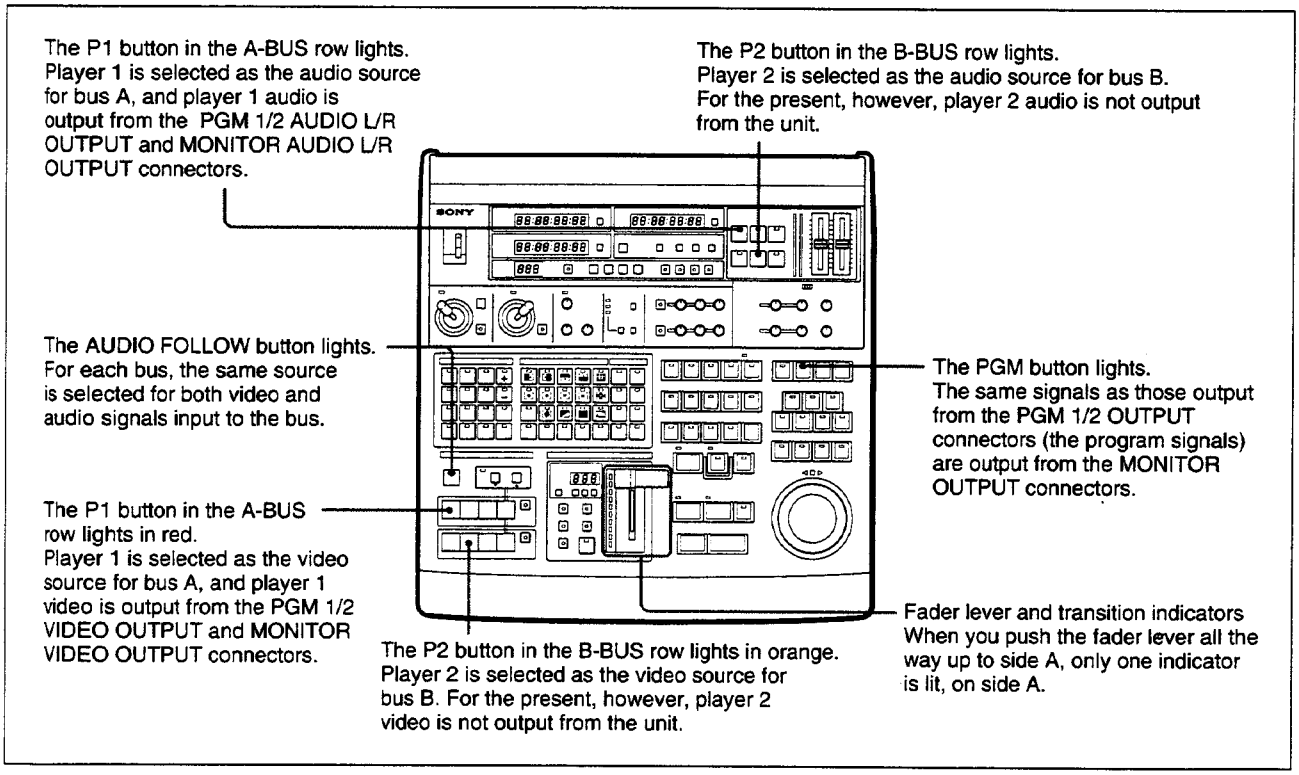
For details, see "Connections" (page 3-3).



Connected equipment and video/audio I/O connectors

Default Input and Output Signals

Turn the unit on, and push the fader lever up all the way toward side A. As soon as you begin playback or shooting with the connected sources, video and audio from player 1 will be output to the recorder, connected to the PGM 1 OUTPUT connector, to the program monitor, connected to the PGM 2 OUTPUT connectors, and to the main monitor, connected to the MONITOR OUTPUT connectors. This is because the unit is automatically initialized as follows when you turn it on, depending on the position of the fader lever.


The P1 button in the A-BUS row lights.
Player 1 is selected as the audio source for bus A, and player 1 audio is output from the PGM 1/2 AUDIO L/R OUTPUT and MONITOR AUDIO L/R OUTPUT connectors.
The P2 button in the B-BUS row lights.
Player 2 is selected as the audio source for bus B.
For the present, however, player 2 audio is not output from the unit.
The AUDIO FOLLOW button lights.
For each bus, the same source is selected for both video and audio signals input to the bus.
The PGM button lights.
The same signals as those output from the PGM 1/2 OUTPUT connectors (the program signals) are output from the MONITOR OUTPUT connectors.
The P1 button in the A-BUS row lights in red.
Player 1 is selected as the video source for bus A, and player 1 video is output from the PGM 1/2 VIDEO OUTPUT and MONITOR VIDEO OUTPUT connectors.
The P2 button in the B-BUS row lights in orange.
Player 2 is selected as the video source for bus B. For the present, however, player 2 video is not output from the unit.
Fader lever and transition indicators
When you push the fader lever all the way up to side A, only one indicator is lit, on side A.

Default input and output signals

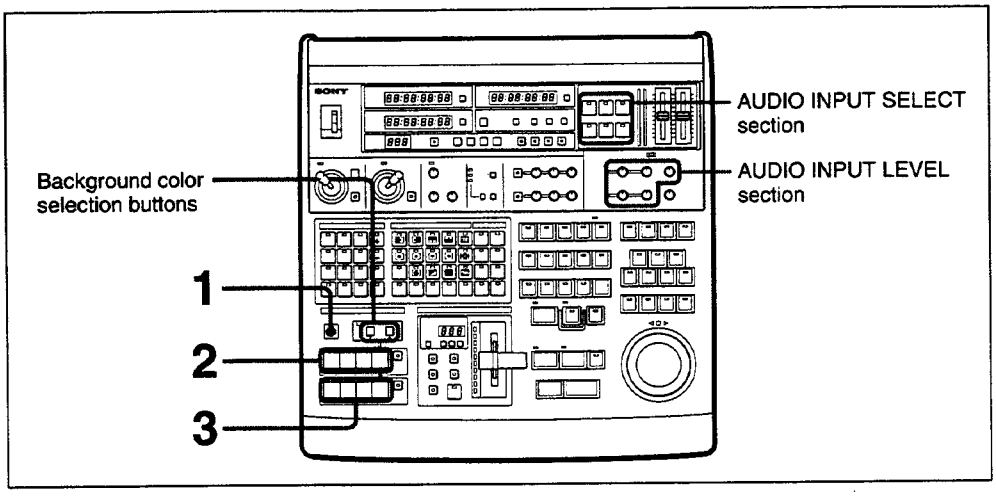
About the colors of input button lights

The meanings of the different colors of the buttons in the A-BUS row and B-BUS row of the VIDEO INPUT SELECT section are as follows.

- When a button **lights in red**, it means that the signal selected with that button is output from the PGM 1/2 OUTPUT connectors.
- When a button **lights in orange**, it means that the signal has been selected for input to the A or B bus, but not for output.
- When two buttons in either the A-BUS row or the B-BUS row **light in red**, it means that the signals selected with those buttons are mixed for output.
- When a button **flashes**, it means that there is no input to the connector selected by that button.
- **About the BKGD buttons**
  The BKGD buttons in the VIDEO INPUT SELECT section select color background output. Note that these buttons take precedence over other buttons in the same row (P1, P2, AUX). Even if the other buttons are lit, the output will be the color background.

Selecting the Same Source for Video and Audio Inputs to a Bus

When the AUDIO FOLLOW button in the VIDEO INPUT SELECT section is lit, an operation which selects a video signal for input to a bus automatically selects the audio signal from the same source.



Selecting audio and video simultaneously

1 If the AUDIO FOLLOW button is not lit, press it turning it on.

2 To select the input signals for bus A, press the desired button in the A-BUS row of the VIDEO INPUT SELECT section so that it lights in red or orange.

For the meaning of the red and orange colors, see "About the colors of input button lights" on page 4-8.

P1 button: Selects player 1 audio and video.
The P1 button in the A-BUS row of the AUDIO INPUT SELECT section lights automatically.

P2 button: Selects player 2 audio and video.
The P2 button in the A-BUS row of the AUDIO INPUT SELECT section lights automatically.

AUX button: Selects auxiliary source 1 audio and video.
The AUX 1 button in the A-BUS row of the AUDIO INPUT SELECT section lights automatically.

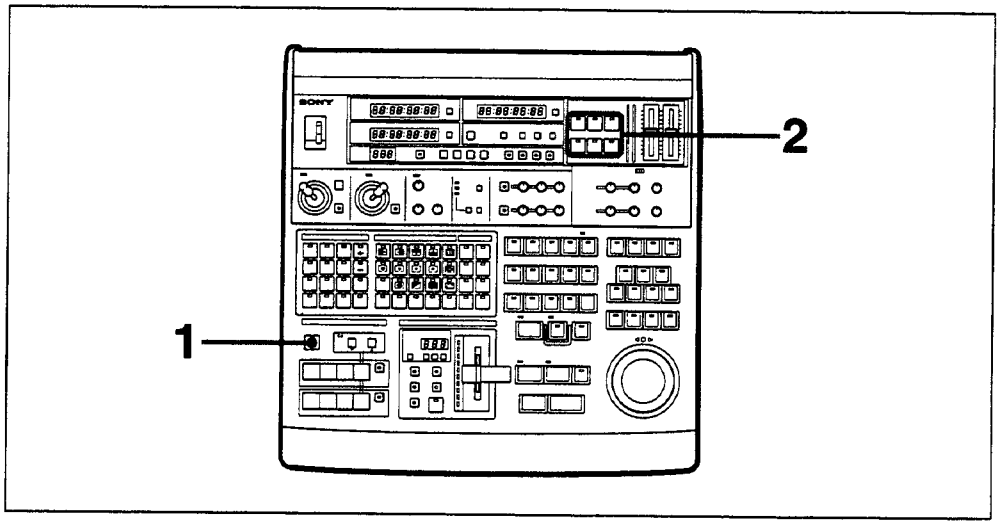
BKGD button: Selects a background color generated by the built-in color background generator.
You can select one of 25 colors by pressing the background color selection buttons (▲/▼).

When you press the BKGD button, any other buttons which may have been lit in the A-BUS row of the VIDEO INPUT SELECT section remain lit. However, the selection made with the BKGD button is given priority. Note that the audio signals of the currently selected source are always output, and may be adjusted with the controls in the AUDIO INPUT LEVEL section.
For more information about adjusting the audio level, see "Adjusting Audio Levels" (page 4-16).

3 Proceed in the same way to make selections for bus B, pressing the desired button in the B-BUS row of the VIDEO INPUT SELECT section.

Selecting Different Sources for Video and Audio Inputs to a Bus

You can select video and audio signals from different sources for input to each bus.



Selecting different sources for video and audio inputs to a bus

1 If the AUDIO FOLLOW button in the VIDEO INPUT SELECT section is lit, press it turning it off.

2 Press the desired buttons in the A-BUS and B-BUS rows of the AUDIO INPUT SELECT section, turning them on.

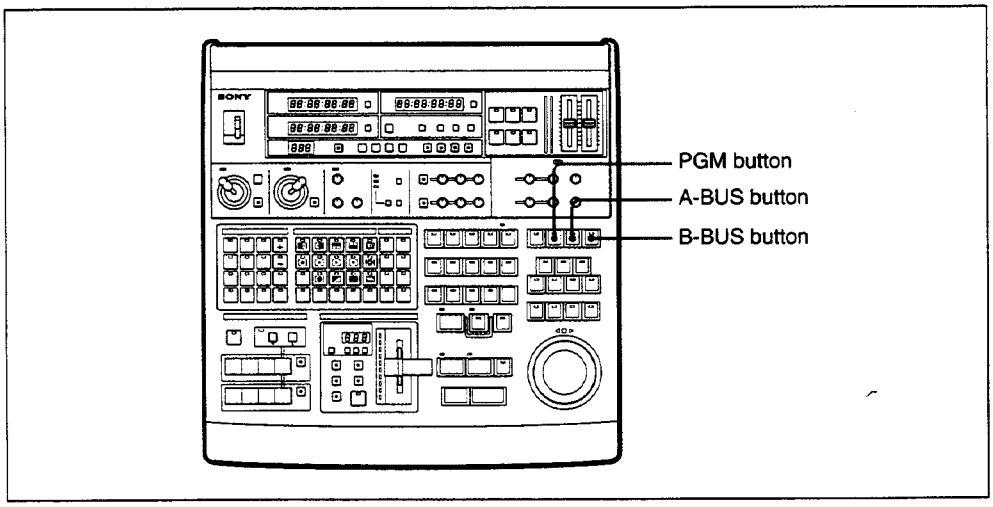
P1 button: Selects audio input from player 1.
P2 button: Selects audio input from player 2.
AUX 1 button: Selects audio input from auxiliary source 1.

Monitoring Video and Audio Signals

You can monitor signals from bus A or bus B on both the program monitor, connected to the PGM 2 OUTPUT connectors, and the main monitor, connected to the MONITOR OUTPUT connectors.
In addition to signals from bus A and bus B, you can monitor signals from any connected source on the main monitor.

Monitoring bus signals on the main monitor

To output signals from bus A to the main monitor, press the A-BUS button in the MONITOR section, turning it on. To output signals from bus B, press the B-BUS button. If you press the PGM button in the MONITOR section, you can output the signals currently being output from the PGM 1/2 OUTPUT connectors to the main monitor.



Monitoring bus signals on the main monitor

Monitoring bus signals on the program monitor

When viewing output signals on the program monitor, you can switch from A-bus signals to B-bus signals, or the reverse.

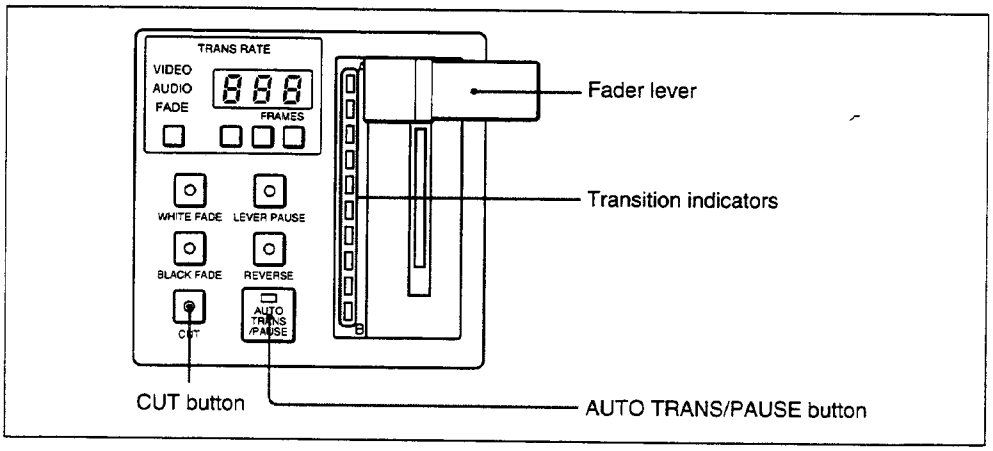
Example: Switching from A-bus signals to B-bus signals

- Press the CUT button in the EFFECT TRANSITION section.
  The output from the PGM 1/2 OUTPUT connectors switches instantly from A-bus signals to B-bus signals.
  The single transition indicator which had been lit on the A side goes out, and a single transition indicator lights on the B side.
  When the CUT button is pressed, the AUTO TRANS/PAUSE button lights automatically, and the unit enters auto transition mode.

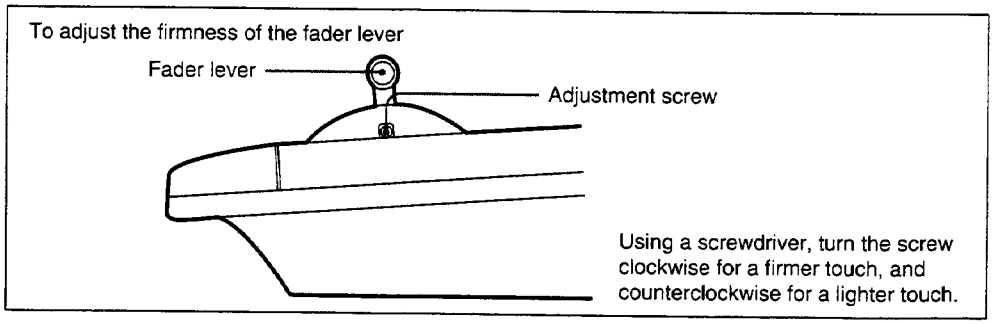
  For details about auto transition mode, see "Auto Transition Effects" (page 6-6).

Or

- Pull the fader lever down from the A side to the B side.
  If the NORMAL MIX button in the MIX/EFFECT section is lit, then signals from bus A are mixed with signals from bus B during the time that the fader lever is being pulled from side A to side B. When the fader lever is pulled all the way down to side B, signals are output from bus B only.
  As the transition progresses, the number of lit transition indicators increases, and then decreases to only one when the fader lever is pulled all the way down to the B side.



Switching output to the program monitor

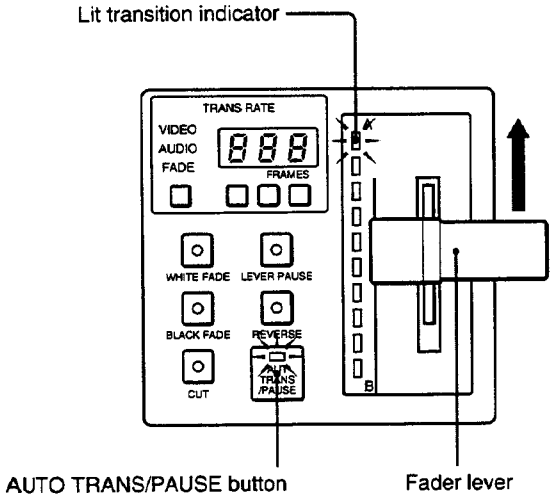

To adjust the firmness of the fader lever
Fader lever
Adjustment screw
Using a screwdriver, turn the screw clockwise for a firmer touch, and counterclockwise for a lighter touch.

Note on the fader lever

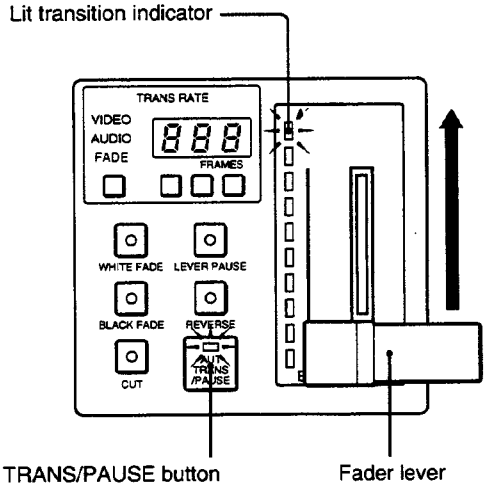
When the AUTO TRANS/PAUSE button is lit, the fader lever is disabled. To use the fader lever, you must extinguish the AUTO TRANS/PAUSE button.
To extinguish the AUTO TRANS/PAUSE button, proceed as follows:

- In cases 1 and 2, push the fader lever all the way toward the side with only one transition indicator lit.
- In case 3, move the fader lever toward the side with no transition indicator lit ①, then move it back toward the side with the lit indicator ②.

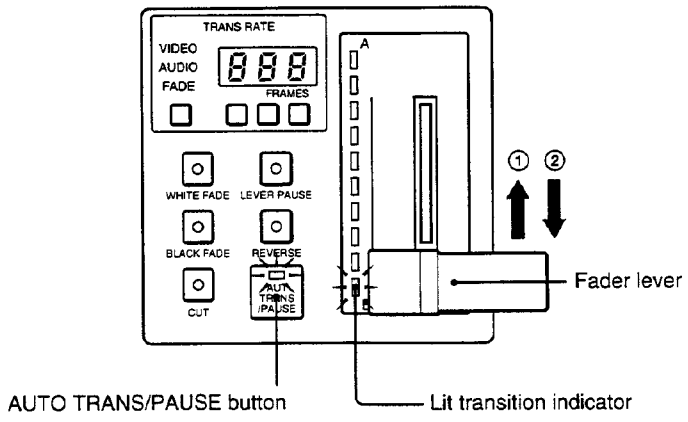
Case 1: The fader lever is in the middle of the transition range.



Case 2: The fader lever is pushed all the way toward the A or B side, and only one indicator is lit on the opposite side.



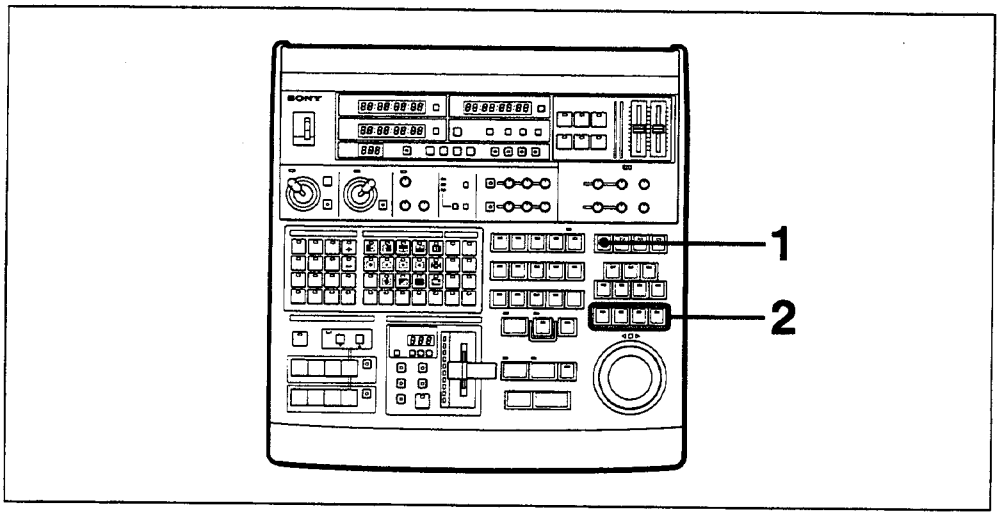
Case 3: The fader lever is pushed all the way toward the A or B side, and only one indicator is lit on the same side.



To extinguish the AUTO TRANS/PAUSE button

Monitoring source signals directly

You can output source signals directly to the main monitor without passing through the A bus or the B bus.
Proceed as follows to select source signals for direct output to the main monitor.



Switching source signals for output to the main monitor

1 Press the SOURCE button in the MONITOR section, turning it on.

The PGM button goes out. The video and audio signals which are currently selected by SOURCE section buttons are output to the main monitor.

2 To monitor another source, press the desired SOURCE section button, turning it on.

P1 button: To monitor audio and video input from player 1.
P2 button: To monitor audio and video input from player 2.
R-VTR button: To monitor audio and video input from the recorder.
AUX button: To monitor audio and video input from auxiliary source 1.

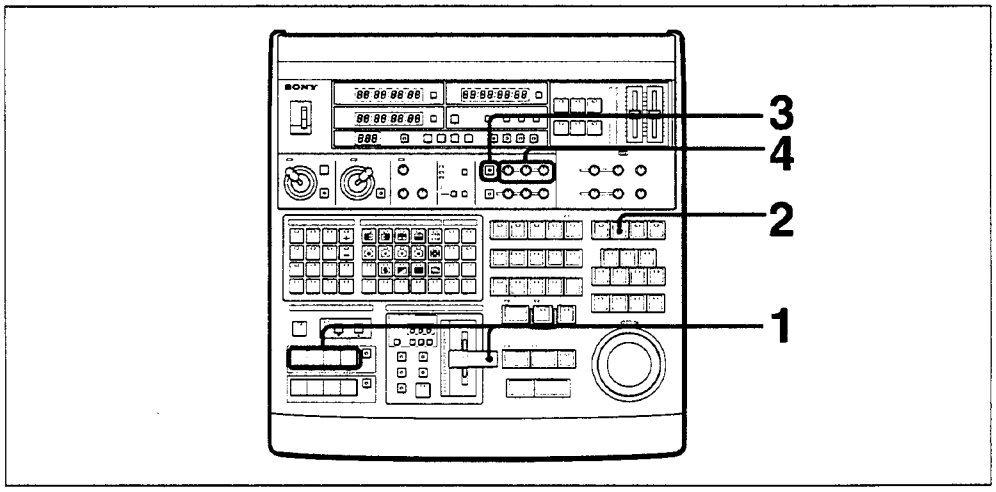
The SOURCE section button which had been lit up to now goes out, and signals from the newly selected source are output to the main monitor.

Adjusting Video and Audio Signals

By adjusting the color characteristics of input video, and adjusting the audio input level, you can output signals to match the effects you desire from the PGM 1/2 OUTPUT connectors.

Adjusting Video Signals

While viewing the monitor, you can adjust the hue (FXE-100) or color subcarrier phase (FXE-100P), luminance, and chrominance of the video output.
The following example shows how to adjust A-bus video output signals while viewing the monitor.



Adjusting video signals

1 Push the fader lever up to the A side, and select the signals you want to adjust with the selection buttons in the A-BUS row of the VIDEO INPUT SELECT section.

2 Press the PGM button in the MONITOR section.

The signals selected in step **1** are output to the main monitor.

3 Press the A-BUS button in the VIDEO LEVEL & HUE (FXE-100) or VIDEO LEVEL & CHROMA PHASE (FXE-100P) section.

The HUE (FXE-100) or CHROMA PHASE (FXE-100P), LUMINANCE and CHROMINANCE knobs to the right of the button are enabled.

4 While viewing the main monitor, rotate the knobs to adjust the video.

HUE knob (FXE-100): Adjusts the hue.
CHROMA PHASE knob (FXE-100P): Adjusts the color subcarrier phase.
LUMINANCE knob: Adjusts the brightness.
CHROMINANCE knob: Adjusts the saturation.

Note for FXE-100P

When adjusting the color subcarrier phase, use a vectorscope to measure the adjustments.

If you want to adjust the white balance, use the COLOR CORRECTION joystick.

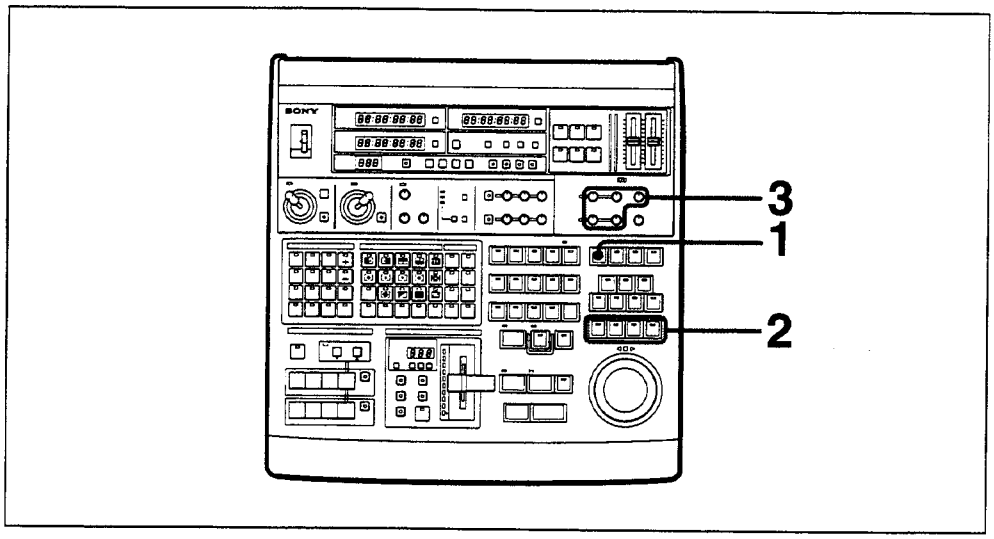
For details, see "Color correction" (page 5-51).

Adjusting Audio Levels

This section will explain how to adjust audio input and output levels.

Adjusting the audio input level

To adjust the audio input level from VCRs or auxiliary source 1, proceed as follows.



Adjusting the audio input level from VCRs or auxiliary source 1

1 Press the SOURCE button in the MONITOR section, turning it on.

2 Select the audio source by pressing one of the buttons (P1, P2, AUX) in the SOURCE section.

P1 button: Player 1
P2 button: Player 2
AUX button: Auxiliary source 1

3 Adjust using the knobs in the AUDIO INPUT LEVEL section, while monitoring the audio level meters in the audio mixer section.

P1 MAIN, P2 MAIN knobs: Player 1 and player 2 main audio level.
P1 SUB, P2 SUB knobs: Player 1 and player 2 secondary audio level.
AUX 1 knob: Auxiliary input 1 audio level.

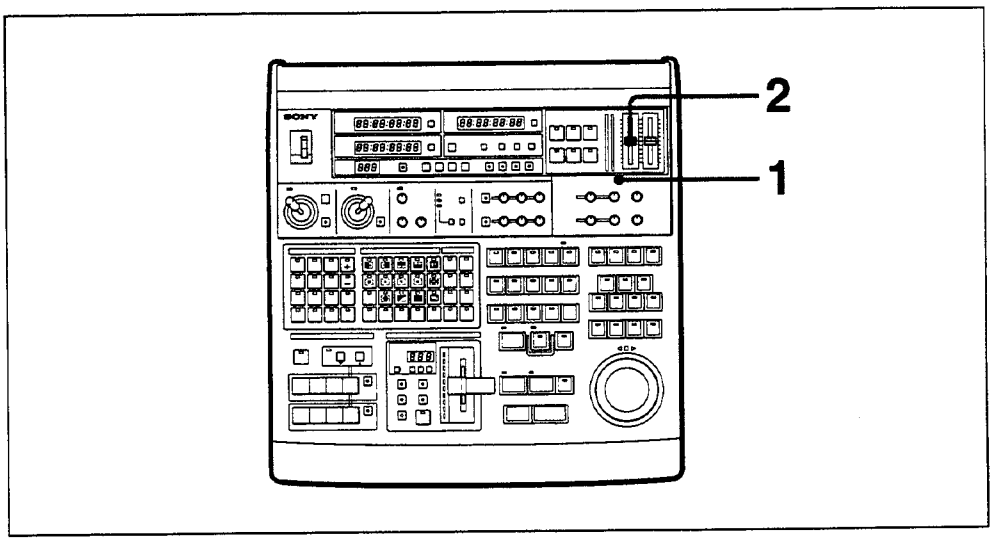
Note

The left (L) and right (R) channels are adjusted together. They cannot be adjusted separately.

Adjusting audio input from microphones and auxiliary source 2

Regardless of the position of the fader lever (and the number of lit transition indicators), you can mix narration and background music from a microphone or auxiliary source at the desired level with the audio of bus A or bus B, for output from the PGM 1/2 AUDIO L/R OUTPUT connectors.

To adjust the level of audio input from the microphone or auxiliary source 2, proceed as follows.



Adjusting the level of audio input from microphones and auxiliary source 2

1 Using the AUX 2/MIC switch in the audio mixer section, select the audio signal which you wish to adjust.

AUX 2: Adjust the level of audio input from auxiliary source 2.
MIC: Adjust the level of audio input from the microphone.

2 Move the AUX 2/MIC fader to adjust the audio input level.

The further up the fader is, the higher the audio level.

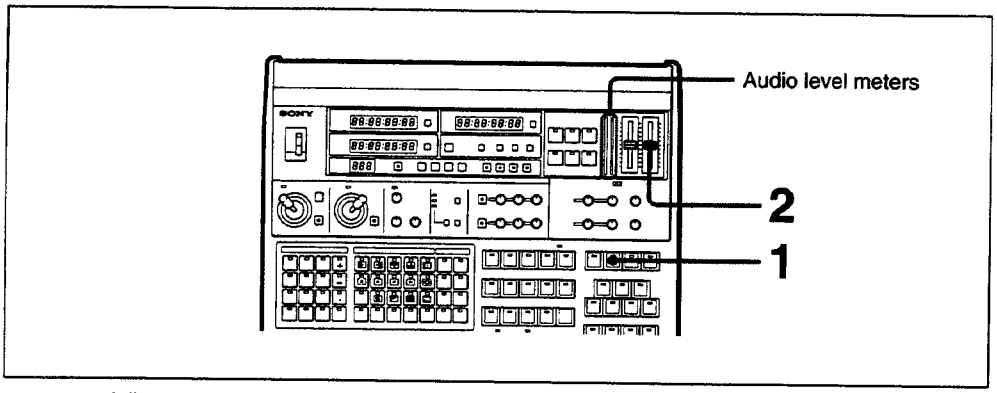
Notes

- The left (L) and right (R) auxiliary source levels are adjusted together. They cannot be adjusted separately.
- Microphone input is monaural.

For more information about the flow of audio signals see page A-7.

Adjusting audio output levels

To adjust the level of all output from the PGM 1/2 AUDIO L/R OUTPUT connectors



Adjusting the level of all output from the PGM 1/2 AUDIO L/R OUTPUT connectors

1 Press the PGM button in the MONITOR section, lighting it, to select program signals for output to the main monitor.

2 While monitoring the level meters in the audio mixer section, move the MASTER fader to adjust the level.

The further up the fader is, the higher the audio level.

Note

The left (L) and right (R) channels are adjusted together. They cannot be adjusted separately.

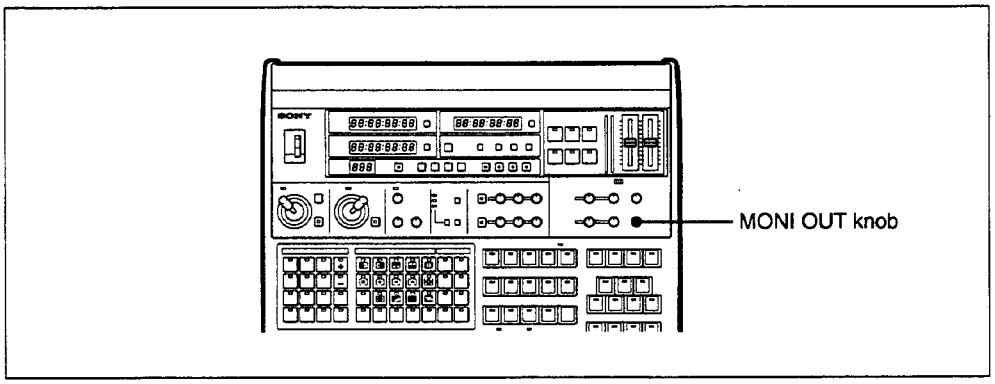
For more information about the flow of audio signals see page A-7.

To adjust the level of output from the MONITOR AUDIO L/R OUTPUT connectors

Rotate the MONI OUT knob in the AUDIO INPUT LEVEL section clockwise to increase the level, and counterclockwise to decrease it.

Note

The left (L) and right (R) auxiliary source levels are adjusted together. They cannot be adjusted separately.



Adjusting the level of output from the MONITOR AUDIO L/R OUTPUT connectors

For more information about the flow of audio signals see page A-7.

Chapter 5
Editing Operations

This chapter begins by describing several operations which are common to all editing tasks, such as selecting the edit mode, setting edit points, and selecting special effects. Then it explains how to preview, execute, and review the edit.

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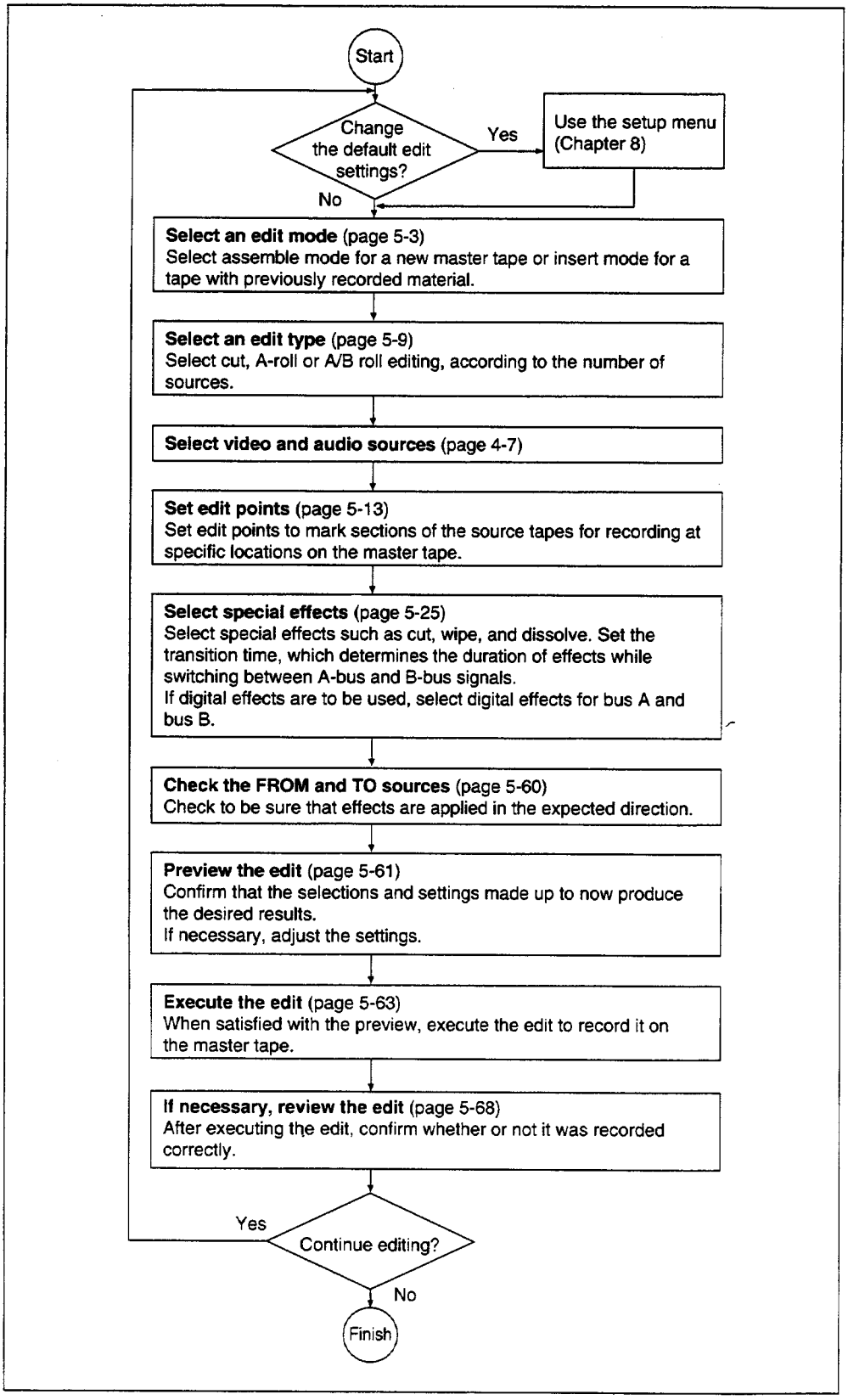
Common Editing Procedures

The following is a flowchart of basic operations which are common to every editing session. See the page numbers in parentheses for detailed descriptions of each operation.


Start
Change the default edit settings?
Yes
Use the setup menu (Chapter 8)
No
Select an edit mode (page 5-3)
Select assemble mode for a new master tape or insert mode for a tape with previously recorded material.
Select an edit type (page 5-9)
Select cut, A-roll or A/B roll editing, according to the number of sources.
Select video and audio sources (page 4-7)
Set edit points (page 5-13)
Set edit points to mark sections of the source tapes for recording at specific locations on the master tape.
Select special effects (page 5-25)
Select special effects such as cut, wipe, and dissolve. Set the transition time, which determines the duration of effects while switching between A-bus and B-bus signals.
If digital effects are to be used, select digital effects for bus A and bus B.
Check the FROM and TO sources (page 5-60)
Check to be sure that effects are applied in the expected direction.
Preview the edit (page 5-61)
Confirm that the selections and settings made up to now produce the desired results.
If necessary, adjust the settings.
Execute the edit (page 5-63)
When satisfied with the preview, execute the edit to record it on the master tape.
If necessary, review the edit (page 5-68)
After executing the edit, confirm whether or not it was recorded correctly.
Yes
Continue editing?
No
Finish

Flowchart of a typical editing session

Selecting an Edit Mode

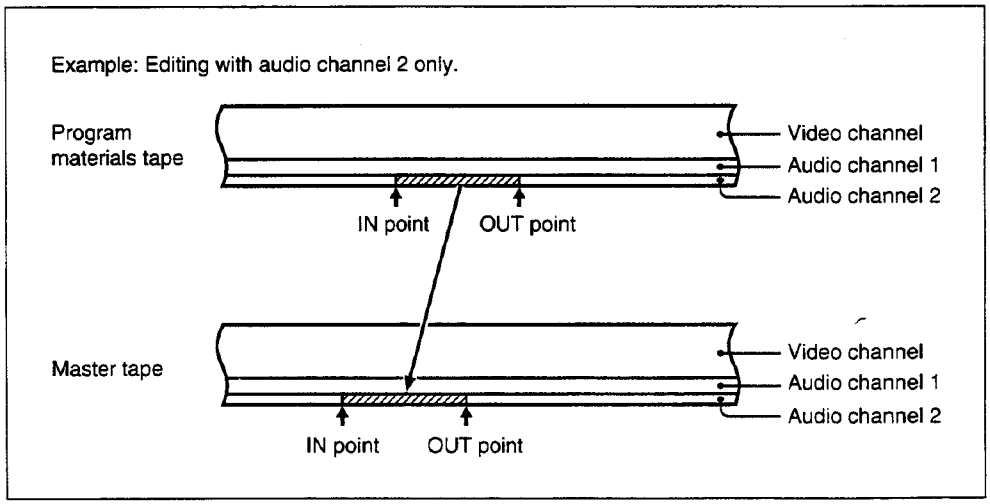
This section describes the unit's edit modes and explains when to select them.

Note

For some VCRs, it may not be possible to select edit modes when tapes are write inhibited.

Insert Mode

Select insert mode when you want to insert program material at specific points on a previously recorded tape. You can insert video and audio simultaneously, video only, or audio only. You can also specify channel 1 audio, channel 2 audio, or both. Unlike assemble mode editing, insert mode editing does not affect sections of the tape beyond the recorder OUT point, because the unit switches from recording mode to playback mode as soon as the OUT point is reached.
Insert mode is selected by default when you turn the unit on. However, note that in some cases the video channel only is selected, due to limitations in the connected VCRs.



Insert mode editing

Select insert mode when you wish to:
- record video and audio over unneeded sections of a previously recorded tape.
- insert music and narration into a tape containing an edited video program.
- insert video into a tape containing an edited audio program.

Note

Tapes with nothing at all recorded on them cannot be used as master tapes in insert mode editing. Normally, master tapes should be prepared by recording black burst signals in advance.

For details, refer to the handbook supplied with this unit.

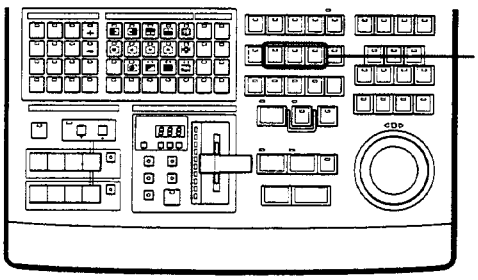
Selecting an Edit Mode

Selecting insert mode

Select the channel(s) to edit by pressing the insert mode buttons (V, A1, A2) in the EDIT MODE section of the control panel, turning them on.

V button: Edit the video channel.
A1 button: Edit audio channel 1.
A2 button: Edit audio channel 2.

You can press several buttons to edit multiple channels.



Selecting insert mode channels

To cancel a channel selection

Press the corresponding insert mode button, turning it off.

To exit insert mode

Press all of the lit insert mode buttons.
When you press the last lit button, instead of going off it begins to flash, along with the other two insert mode buttons. The ASMBL button also begins to flash. This means that no edit mode is currently selected.

Time code insert mode

Use this mode to add time code to tapes with previously recorded audio or video.

For details, see "Recording Time Code — Time Code Insert" (page 6-22).

Split mode

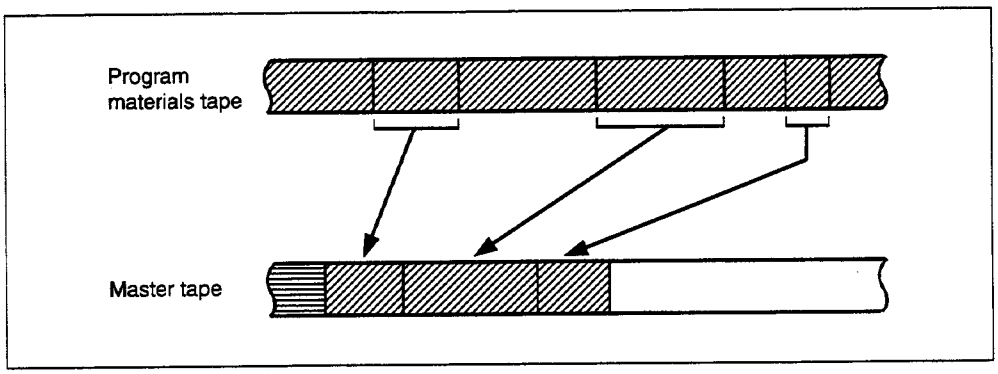
You can set independent IN points for audio and video.

For details, see "Settting Independent Video and Audio IN Points — Split Editing" (page 6-8).

Assemble Mode and First Edit Mode

Assemble mode

Select assemble mode when you want to record sequentially from the start of a master tape. Video and audio are recorded on the master tape together with control and time code signals. If time code signals have already been recorded on the master tape, then the newly recorded time code signals will be recorded in sequence with the existing signals.
Assemble mode is convenient when using a new tape as the master tape.



Assemble mode editing

Notes on assemble mode editing

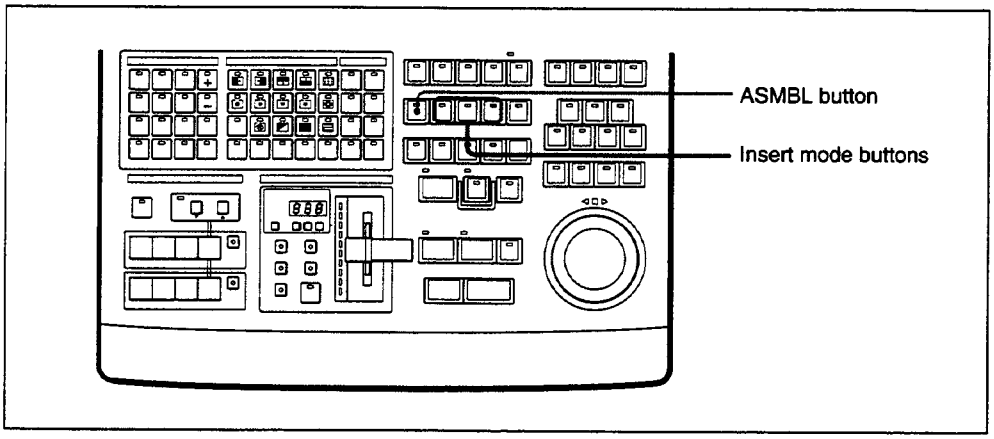
- When an assemble edit is executed for the first time on a master tape, the unit expects to find CTL signals recorded on the tape from the preroll point or earlier up to and including the IN point. If CTL signals have not yet been recorded on the tape, execute a first edit before selecting assemble mode.

  For details, see "First edit mode" (page 5-7).

- If you begin an assemble edit at a point midway though an already recorded tape, signals will be erased across the entire width of the tape for about two seconds after the recorder's OUT point. Both video and audio signals recorded in this two-second section will be lost. If you wish to avoid this, select insert mode instead of assemble mode.

Selecting assemble mode

Press the ASMBL button in the EDIT MODE section of the control panel, turning it on.
If any insert mode buttons (V, A1, A2) are lit, press them to turn them off before pressing the ASMBL button.



Selecting assemble mode

To exit assemble mode

Press the ASMBL button, turning it off, or press one of the insert mode buttons (V, A1, A2), turning it on.

First edit mode

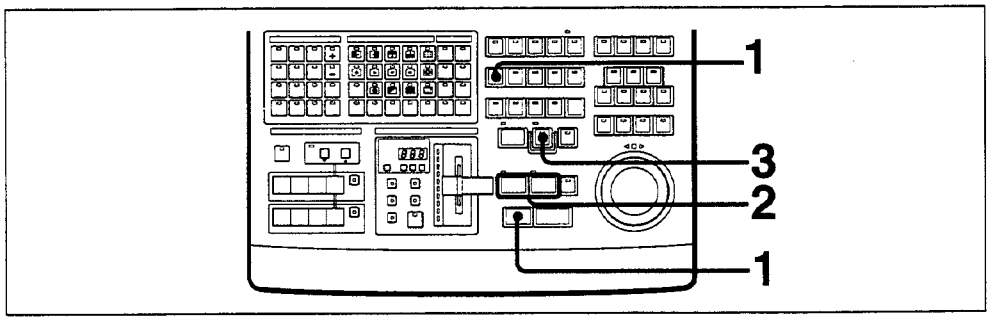
If there is nothing at all recorded on the master tape, you will be unable to execute even an assemble edit. This is because the unit needs to find control signals on the master tape, at least around the edit IN point, in order to synchronize the tapes. When using a blank tape for the first time, select first edit mode to perform an initializing assemble edit. Black burst signals, CTL signals, and time codes will be recorded from the beginning of the tape, as follows.

- **Before the IN point:** 10 seconds, plus the preroll time selected under setup menu item 102 PREROLL TIME.
  For details, see Chapter 8.
- **After the IN point:** 2 seconds

After executing a first edit, the unit automatically enters assemble mode.

Executing a first edit

Proceed as follows to execute a first edit.



Editing in first edit mode

1 In the EDIT MODE section, press the 1ST EDIT (=SHIFT+ASMBL) button after verifying that:
- the ASMBL button is lit, or
- the ASMBL button and insert mode buttons (V, A1, A2) are flashing.

If any insert mode buttons are lit, press to turn them off, until they begin flashing together with the ASMBL button.
When you press the 1ST EDIT (=SHIFT + ASMBL) button, it begins flashing more rapidly than normal.

2 Set the edit points for the first assemble edit.

For more information about setting edit points, see page 5-13.

3 Press the AUTO EDIT/END button in the AUTO CONTROL section.
The recorder begins to run. Black burst signals, CTL signals, and time code signals are recorded from the beginning of the tape to a point sufficient for synchronization, and then the first assemble edit is executed.

To set an IN point time code other than 00:00:00:00

After step **1**, press the MARK IN button in the TIME MARK section, or press the SET IN (=SHIFT + MARK IN) button and enter the desired time code with the numeric keypad.

For details, see "Setting edit points with the numeric keypad" (page 5-15).

About time code and control signals

Under setup menu item 104 EDIT REFERENCE, you can specify whether time code or CTL signals shall be used as tape positioning information. The unit is factory preset to use longitudinal time code (LTC, time code recorded along the length of the tape).

Notes

- With the FXE-100, time code is recorded in non-drop frame mode when setup menu item 110 FRAME CONTROL MODE is set to AUTO.
  Note that this menu item is not incorporated in the FXE-100P.
- The data selected under setup menu item 105 USER BITS is recorded in time code user bits.

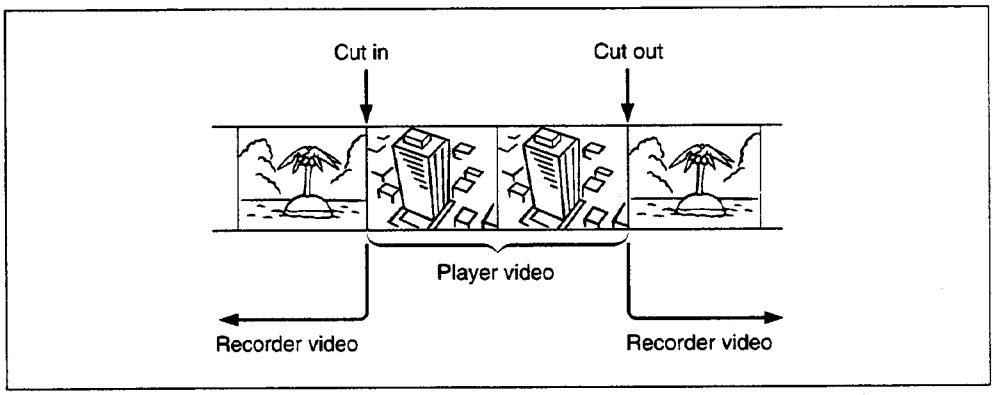
For details, see Chapter 8.

Selecting an Edit Type

Depending upon whether you are using one or two players, select the type of insert or assemble edit.

Cut Editing

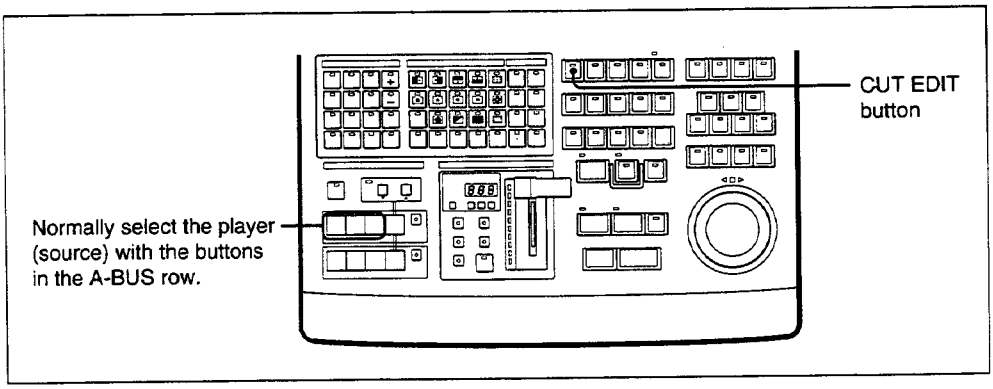
Cut editing is editing with one player, with instantaneous cuts between player and recorder signals at the recorder IN and OUT points.



Cut editing

To select cut editing

Press the CUT EDIT button in the EDIT TYPE section, turning it on.



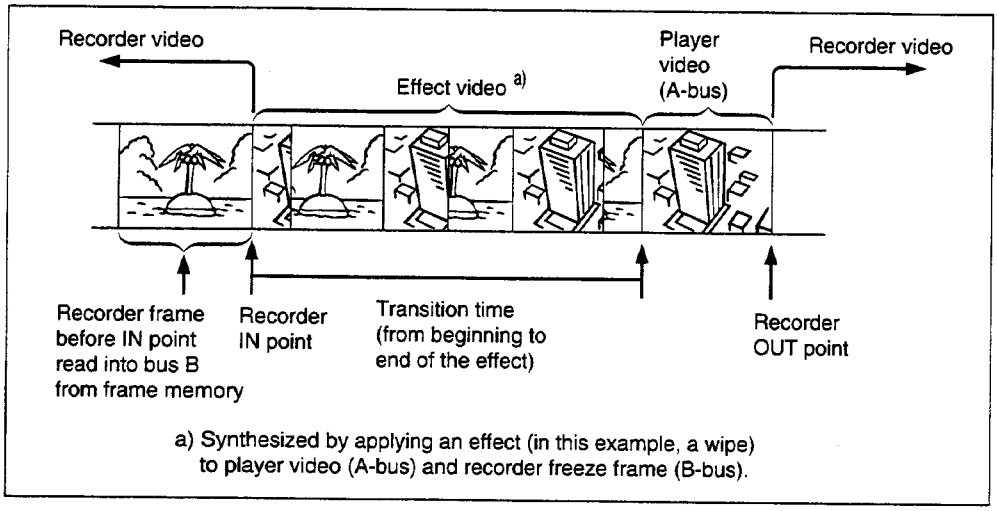
To select cut editing

Note

In normal cut editing, select sources by pressing the buttons in the A-BUS row of the VIDEO INPUT SELECT section and pushing the fader lever all the way to the A-bus side. If the fader lever is positioned between the A-bus and B-bus sides, combined A-bus and B-bus video will be recorded as the player video.

A-Roll Editing

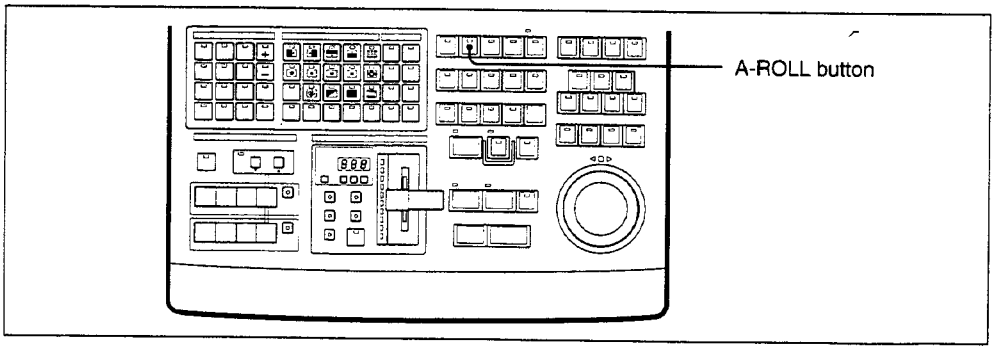
A-roll editing is like cut editing in that it uses only one player. In A-roll editing, however, the playback frame before the recorder IN point is read into bus B, making it possible to use the two signals (A-bus and B-bus) in effects such as wipes and dissolves.


Recorder video
Effect video a)
Player video (A-bus)
Recorder video
Recorder frame before IN point read into bus B from frame memory
Recorder IN point
Transition time (from beginning to end of the effect)
Recorder OUT point
a) Synthesized by applying an effect (in this example, a wipe) to player video (A-bus) and recorder freeze frame (B-bus).

A-roll editing

To select A-roll editing

Press the A-ROLL button in the EDIT TYPE section, turning it on.



To select A-roll editing

To capture freeze playback from video with rapid motion, select single-field freeze by pressing the B-BUS and FRAME/FIELD buttons in the INPUT EFFECT section, turning them on.

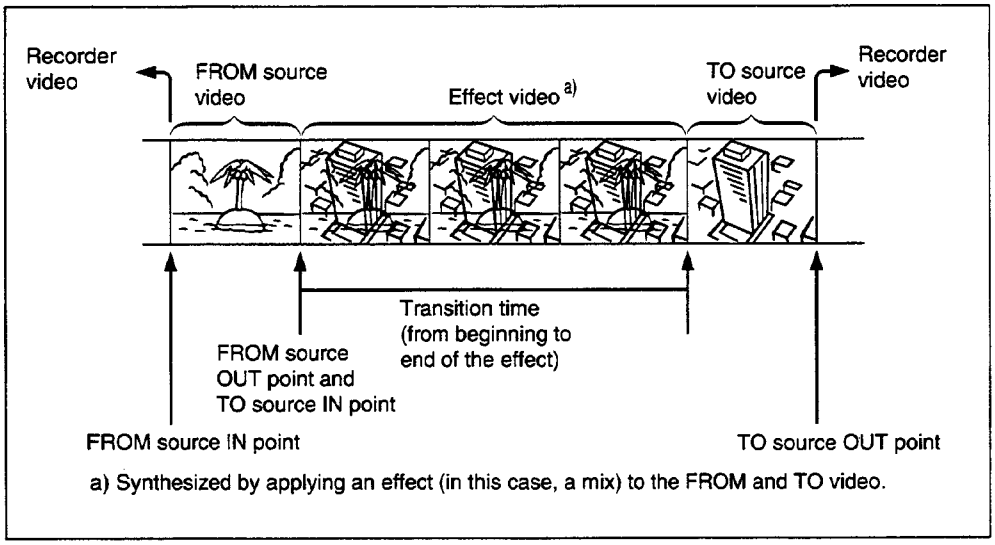
Note

The following restrictions apply in A-roll editing.

- In order to read signals from the recorder into bus B, the player source must always be selected by pressing a button in the A-BUS row of the VIDEO INPUT SELECT section.
- If the BKGD button in the B-BUS row is lit, video signals from the recorder cannot be read into bus B, meaning that the effect will use video signals from bus A and a background color from bus B. If the BKGD button is lit, press it to turn it off.

A/B Roll Editing

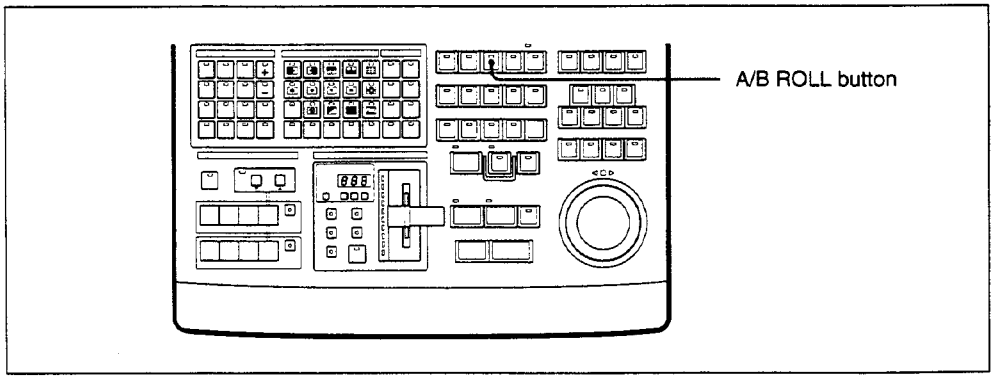
A/B roll editing allows you to record while applying effects such as wipes and dissolves to the playback of two players. The player supplying the signals which appear before the transition is called the FROM source, and the player supplying the signals which appear after the transition is called the TO source.


Recorder video
FROM source video
Effect video a)
TO source video
Recorder video
Transition time (from beginning to end of the effect)
FROM source OUT point and TO source IN point
FROM source IN point
TO source OUT point
a) Synthesized by applying an effect (in this case, a mix) to the FROM and TO video.

A/B roll editing

To select A/B roll editing

Press the A/B ROLL button in the EDIT TYPE section, turning it on.



To select A/B roll editing

Note

This unit also allows a single player to be used to switch from A-bus signals to B-bus signals. In this case too, A/B roll edit should be selected as the edit type by pressing the A/B ROLL button.

For details, refer to "Applying Digital Effects While Switching Between Two Scenes With One Player — Self A-Roll Editing" (page 26) in the FXE-100 handbook.

Manual Effects and Sync Roll Editing

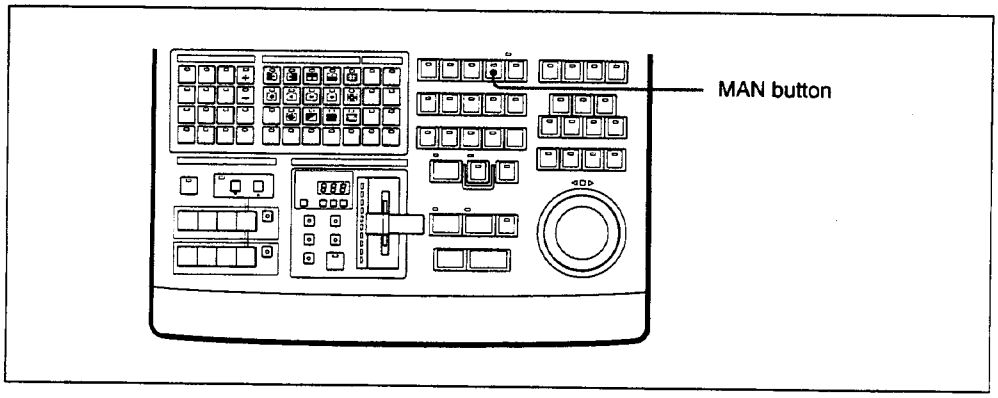
Editing with manual effects

While running two players, you can operate the controls for manual effects at the desired scene. The effects are recorded on tape but not registered in the edit decision list (EDL).

For more information about the EDL, see Chapter 7.

To select manual effect editing

Press the MAN button in the EDIT TYPE section, turning it on.



To select manual effect editing

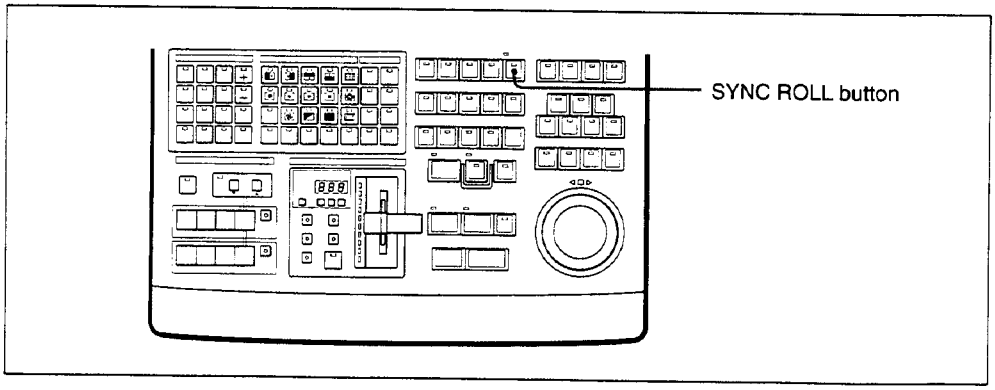
For more information about manual effects, see "Editing With Manual Special Effects" (page 6-4).

Sync roll editing

Sync roll editing is similar to manual editing, except that the effects are registered in the edit decision list. While running two players, operate the controls to achieve the desired effect at the desired scene.

To select sync roll editing

Press the SYNC ROLL button in the EDIT TYPE section, turning it on.



To select sync roll editing

For more information about sync roll editing, see page 6-2.

Setting Edit Points

This section will explain how to set and modify edit points.

Setting Edit Points

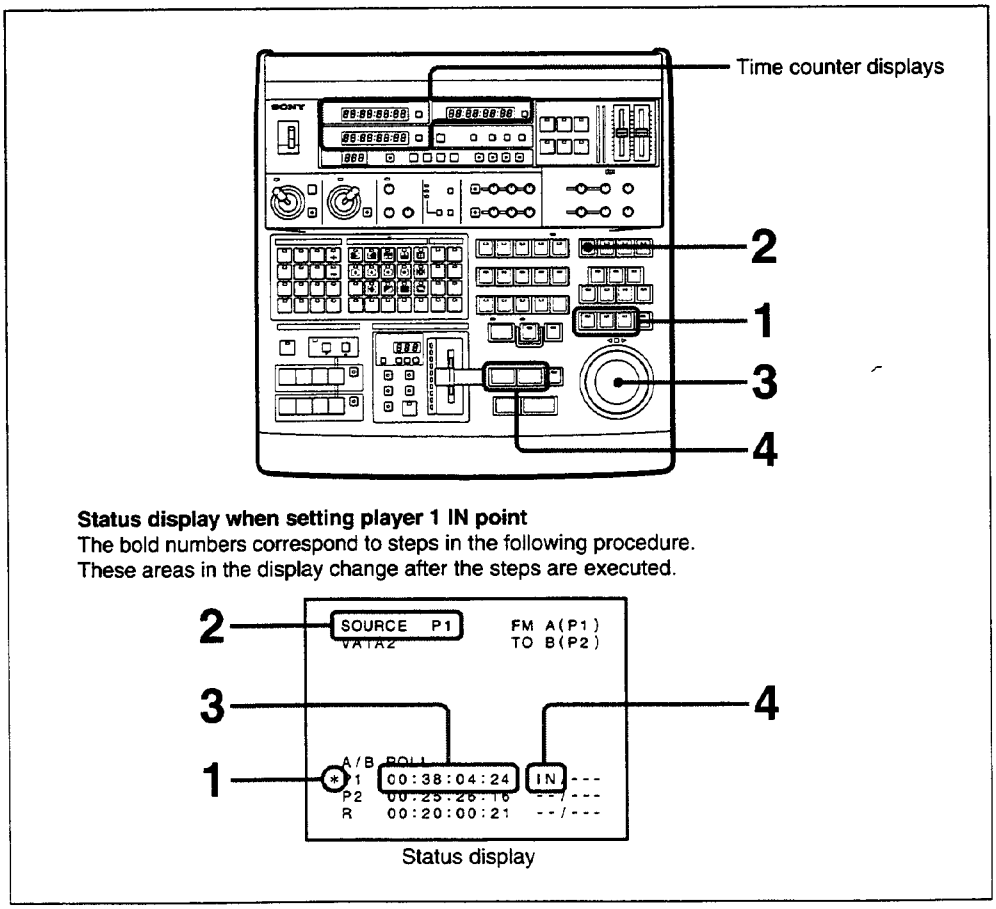
There are two ways to set an edit point:

- Search for the desired frame while viewing playback on the monitor, and then operate the controls to store the time code for that frame in the unit's memory.
- Enter the edit point data manually using the numeric keypad.

Setting edit points while viewing playback

Proceed as follows to set edit points while viewing playback on the main monitor. If the ON indicator in the SCREEN section is lit, a status display in the main monitor will be updated as you carry out each step.

For details, see "About the Status Display" (page 3-10).



Setting edit points while viewing playback

1 Select a VCR by pressing a button in the SOURCE section.
P1 button: Player 1
P2 button: Player 2
R-VTR button: Recorder

- The source button lights. The IN and OUT indicators next to the time counter display for that VCR begin to flash.
- If you have already set an IN point, the IN indicator will be lit. If you have already set an OUT point, the OUT indicator will be lit. In this case, you can update the edit points by executing steps **2**, **3** and **4**.

Status display
Shows * in front of the selected VCR.

2 Press the SOURCE button in the MONITOR section.
The button lights, and playback from the VCR selected in step **1** appears in the main monitor. You can skip this step if you have connected a monitor for each VCR.

Status display
Shows "SOURCE" in the monitor signal area, followed by the name of the selected VCR.

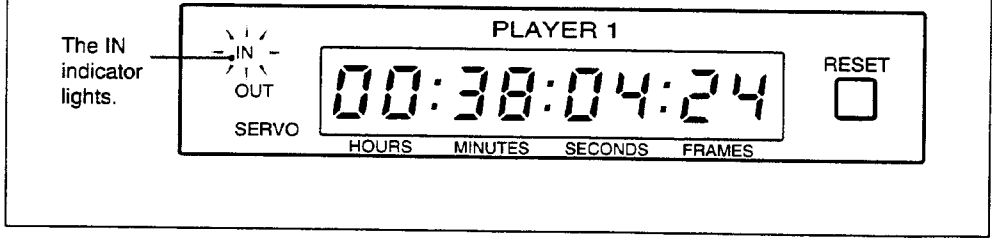
3 While viewing the main monitor, rotate the search dial until you find the desired frame, then stop the dial.
Time code data recorded on the tape for that frame appears in the time counter display.

For details, see "Searching for a Scene With the Search Dial" (page 4-4).

Status display
Shows the selected VCR's current tape position in the time code area.

4 Press the MARK IN or MARK OUT button in the TIME MARK section.
MARK IN: The time code in the time counter display is set as the IN point. The IN indicator stops flashing and lights.
MARK OUT: The time code in the time counter display is set as the OUT point. The OUT indicator stops flashing and lights.

Example: If you press the MARK IN button when player 1 is the selected VCR.



Status display
Shows "IN/– – – " in the time code area.

Note

If the VCRs are not connected correctly, or if the unit was unable to read time code information, an error code will appear in the time counter display.

For details, see "Error Messages" in the Appendixes (page A-2).

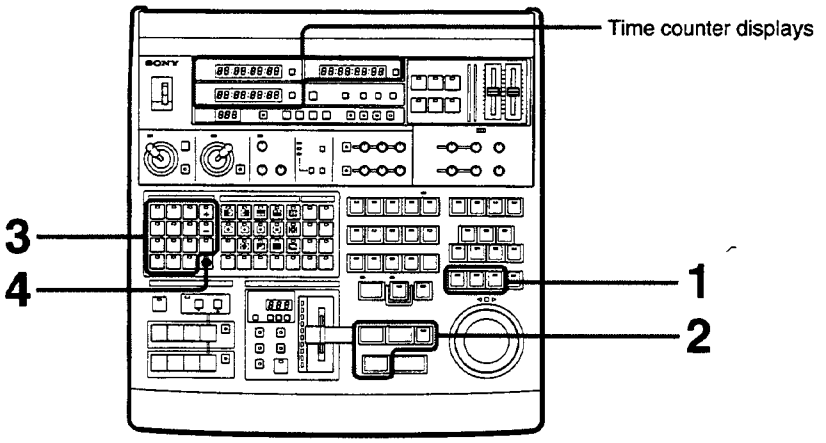
5 Repeat steps **1** through step **4** to set the remaining edit points for each VCR.

To restore the original edit points after modifying them

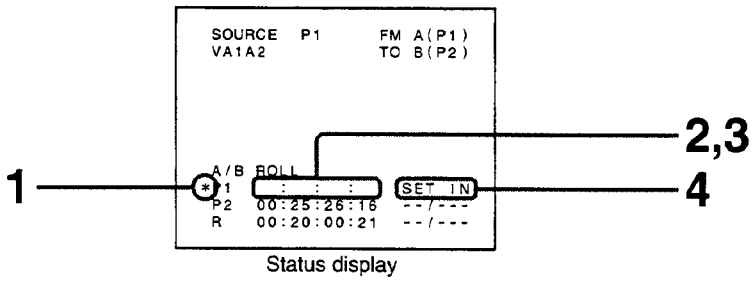
Press the LAST X (=SHIFT + DUR) button in the AUTO CONTROL section.

Setting edit points with the numeric keypad

If you already know the time codes for the frames you want to set, you can enter the codes manually using the numeric keypad. Enter two out of the following three: time codes for the IN and OUT edit points, and the duration.



Status display when setting player 1 IN point
The bold numbers correspond to steps in the following procedure.
These areas in the display change after the steps are executed.



Status display

Setting edit points with the numeric keypad

1 Select a VCR by pressing a button (P1, P2 or R-VTR) in the SOURCE section.

- The source button lights. The IN and OUT indicators next to the time counter display for that VCR begin to flash.
- If you have already set an IN point, the IN indicator will be lit. If you have already set an OUT point, the OUT indicator will be lit. In this case, you can update the edit points by executing steps **2**, **3** and **4**.

Status display
Shows * in front of the selected VCR.

2 In the TIME MARK section, press the SET IN (=SHIFT + MARK IN) button, the SET OUT (=SHIFT + MARK OUT) button, or the SET DUR button. The units enters numeric keypad mode and all of the numeric keys light.

SET IN (=SHIFT + MARK IN): Press this button to set an IN point. The SET IN indicator lights.
SET OUT (=SHIFT + MARK OUT): Press this button to set an OUT point. The SET OUT indicator lights.
SET DUR: Press this button to set the duration. The SET DUR button lights.

Status display
Shows " : : : " in the time code area for the selected VCR, and "SET IN", "SET OUT" or "SET DUR" in the time code data type area.

3 Using the numeric keypad, enter the time code of an IN or OUT point, or the duration (up to eight digits).

Note

The most significant digits are automatically initialized to '0', so you don't need to enter all eight digits. For example, to enter the data "00 hours, 00 minutes, 35 seconds, 24 frames" you can skip the 0000 representing hours and minutes and enter only 3524.

Status display
The number is displayed as you enter it in the selected VCR's time code area.

4 Press the ENT key in the numeric keypad section.
The IN point, OUT point or duration data entered in step **3** is confirmed. For an IN point, the IN indicator next to the time counter lights. For an OUT point, the OUT indicator lights. For a duration, both the IN and OUT indicators light. As soon as you press the ENT key, the unit leaves numeric keypad mode.

Status display
The time code data type area changes as follows.
- "SET IN" → "IN/– – –".
- "SET OUT" → "– –/OUT".
- "SET DUR" → "IN/OUT" (if an IN or OUT point has been set)
  → "– –/– – –" (if no IN or OUT point has been set)

5 Repeat steps **1** through step **4** to set the remaining edit points for each VCR.

To specify a duration for auxiliary source 1

In step **1**, press the AUX button in the SOURCE section, and in step **2** press the SET DUR button.

Notes

- When you press the AUX button, "R-VTR" in the bottom line of the status display changes to "AUX".
- IN points are set automatically for auxiliary source 1.
- The SET IN (=SHIFT + MARK IN) and SET OUT (=SHIFT + MARK OUT) buttons have no effect for auxiliary source 1.

Using special keys in the numeric keypad

00 key: Allows you to enter two zeros at once.
BS key: Erases the digit currently displayed in the last column of the time counter display.
CLR key: Erases all of the digits displayed in the time counter display.

To exit numeric keypad mode immediately

Press the CLEAR button in the AUTO CONTROL section.

To restore the original data

Press the LAST X (=SHIFT + DUR) button in the AUTO CONTROL section.

Relation Between IN/OUT Points and Duration

As soon as you enter two out of the three values (IN point, OUT point, and duration), the unit automatically calculates the third.
When you change one of the values, the other two are adjusted according to the following precedence table. Items with higher numbers have lower precedence, and are the first to be adjusted.

1. Manually set IN point
2. Manually set OUT point
3. Manually or automatically set duration
4. Automatically set IN point
5. Automatically set OUT point

For example, when IN and OUT points have been set manually, and the duration is incremented by three frames using the SET DUR button and the numeric keypad, the OUT point is automatically incremented by three frames while the IN point remains unchanged.

IN point	00:01:02:03 (manual)	Duration increased by three frames →	00:01:02:03 (no change)
OUT point	00:01:04:03 (manual)		00:01:04:06 (automatic)
Duration	00:00:02:00 (automatic)		00:00:02:03 (manual)

The IN point remains unchanged, but the OUT point is automatically incremented by three frames.

Note

A period (.) appears after "IN", "OUT" or "DUR" in the status display to indicate that edit time data has been calculated automatically. This can be verified at any time by selecting a VCR and pressing the IN, OUT or DUR button to display the time data.

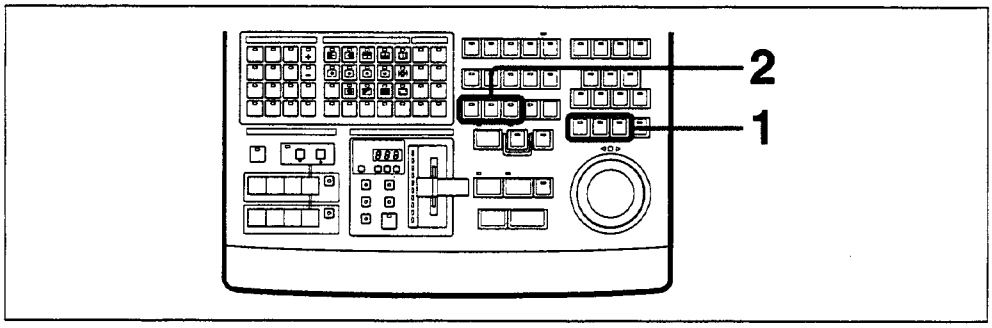
Checking, Cuing Up, Changing and Deleting Edit Points

This section explains how to check edit points, and how to change them after a preview.

For information about how to change or check edit points which have been registered in the EDL, see Chapter 7.

Checking edit points

Proceed as follows to check edit points and durations.



Checking edit point data

1 Select a VCR by pressing the appropriate button (P1, P2 or R-VTR) in the SOURCE section.

2 Depending upon the type of data you want to check, press the IN button, the OUT button or the DUR button in the AUTO CONTROL section, turning it on.

- If you pressed the IN or OUT button, the IN or OUT indicator next to the time counter display for the selected VCR lights. If you pressed the DUR button, both the IN and OUT indicators light. The edit point or duration is displayed on the main monitor and in the corresponding time counter display.

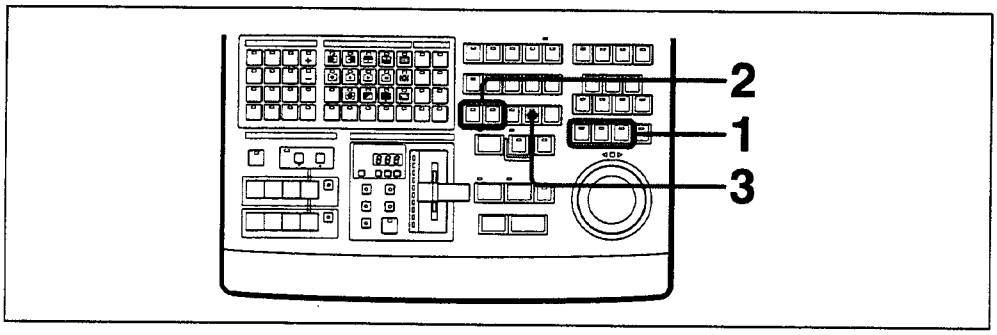
  Note

  A period (.) appears after "IN", "OUT" or "DUR" in the status display to indicate that edit time data has been calculated automatically. This can be verified at any time by selecting a VCR and pressing the IN, OUT or DUR button to display the time data.

- If an IN or OUT point has not yet been set, the corresponding indicator begins to flash and the time counter display shows "– – : – – : – – : – –".

Cuing up the tape to an edit point

You can view the scene which appears at a given edit point by cuing up the tape to that point. Proceed as follows.



Cuing up an edit point

1 Select a VCR by pressing the appropriate button (P1, P2 or R-VTR) in the SOURCE section.

2 To cue up an IN point, press the IN button in the AUTO CONTROL section, turning it on. To cue up an OUT point, press the OUT button.

The time code for the specified edit point appears in the main monitor status display and in the time counter display for that VCR.

3 Press the GO TO button in the AUTO CONTROL section, turning it on. The tape is cued up to the specified point for the specified VCR. Monitors display still playback. "GO TO" appears in the main monitor status display.

4 Repeat steps **1** to **3** to cue up edit points for other VCRs.

If you press the GO TO button without pressing the IN or OUT button
The tape is cued up to the IN point.

Changing edit points

There are two ways to change an already set edit point.

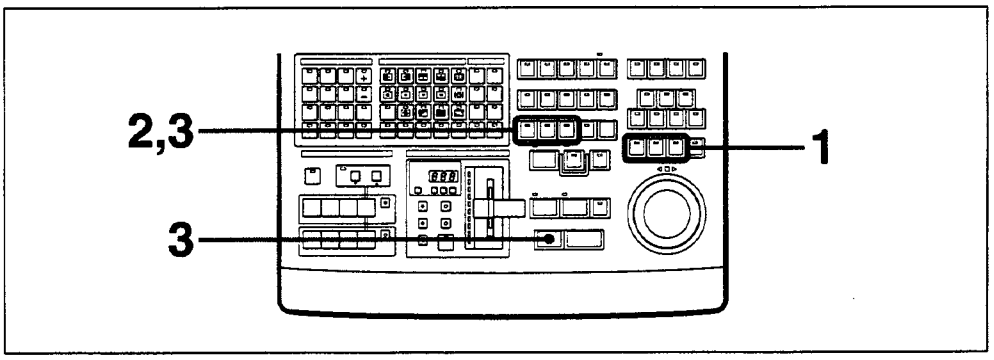
- Set the edit point again.

  For details, see "Setting Edit Points" (page 5-13).

- Trim the edit point data.

Proceed as follows to trim edit point data.

Using the TRIM+ and TRIM– buttons in the AUTO CONTROL section



Trimming edit points with the TRIM+ and TRIM– buttons

1 Select a VCR by pressing the appropriate button in the SOURCE section.

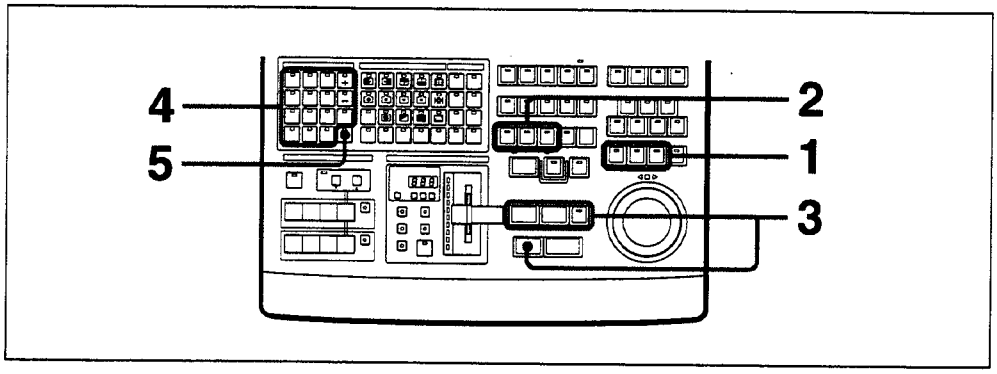
2 Press the IN, OUT, or DUR button in the AUTO CONTROL section to display the value you want to change in the corresponding time counter display.

3 In the AUTO CONTROL section, press the TRIM+ (=SHIFT + IN) button, or the TRIM– (=SHIFT + OUT) button.

TRIM+ (=SHIFT + IN): Each time you press the button, the value increases by one frame.

TRIM– (=SHIFT + OUT): Each time you press the button, the value decreases by one frame.

Trimming edit points with the numeric keypad



Trimming edit points with the numeric keypad

1 Select a VCR by pressing the appropriate button in the SOURCE section.

2 Press the IN, OUT, or DUR button in the AUTO CONTROL section to display the value you want to change in the corresponding time counter display.

3 Depending upon the type of data, press the SET IN (=SHIFT + MARK IN) button, the SET OUT (=SHIFT + MARK OUT) button, or the SET DUR button in the TIME MARK section, putting the unit into numeric keypad mode.

SET IN (=SHIFT + MARK IN): To change IN point data. The SET IN indicator lights.
SET OUT (=SHIFT + MARK OUT): To change OUT point data. The SET OUT indicator lights.
SET DUR: To change the duration. The SET DUR button lights.

4 To increment the data, press the '+' key in the numeric keypad, or press the '–' key to decrement it. Then use the numeric keys to input the desired value (in frames).

Note

You can also enter the value before incrementing or decrementing it with the '+' and '–' keys.

5 Press the ENT key.
The changed data is confirmed, and the unit leaves numeric keypad mode.

To return changed edit points to their original values

Press the LAST X (=SHIFT + DUR) button in the AUTO CONTROL section.

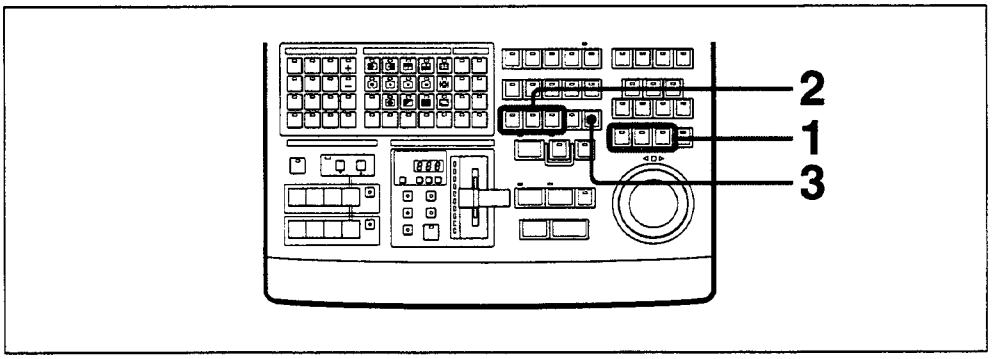
Note

When using CTL signals as edit point data, already set edit points cannot be changed from the numeric keypad.

Deleting edit points

There are two ways to delete edit points.
- Press the CLEAR button in the AUTO CONTROL section.
- Use the numeric keypad.

Deleting edit points with the CLEAR button



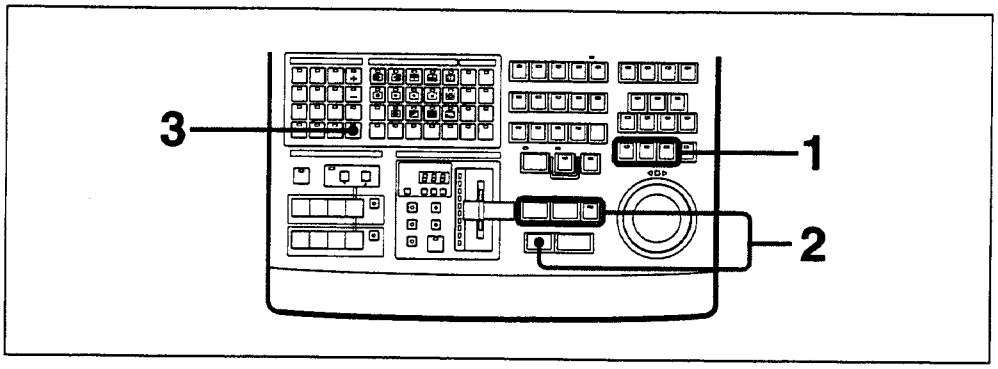
Deleting edit points with the CLEAR button

1 Select a VCR by pressing the appropriate button in the SOURCE section.

2 Press the IN, OUT, or DUR button in the AUTO CONTROL section to display the value you want to delete in the corresponding time counter display.

3 Press the CLEAR button in the AUTO CONTROL section.
The data is deleted. The IN or OUT indicator in the time counter display panel begins to flash, and "– – : – – : – – : – –" is displayed in the time counter display.

Deleting edit points with the numeric keypad



Deleting edit points with the numeric keys

1 Select a VCR by pressing the appropriate button in the SOURCE section.

2 In the TIME MARK section, press the SET IN (=SHIFT + MARK IN) button, the SET OUT (=SHIFT + MARK OUT) button, or the SET DUR button, putting the unit into numeric keypad mode.

SET IN (=SHIFT + MARK IN): To delete an IN point. The SET IN indicator lights.
SET OUT (=SHIFT + MARK OUT): To delete an OUT point. The SET OUT indicator lights.
SET DUR: To delete the duration. The SET DUR button lights.

3 Without entering any numeric data, press the ENT button in the numeric keypad.
The data is deleted. The IN or OUT indicator in the appropriate time counter display panel begins to flash. If you now press one of the IN, OUT or DUR buttons, "– – : – – : – – : – –" appears in the time counter display.

To restore a deleted edit point

Press the LAST X (=SHIFT + DUR) button in the AUTO CONTROL section.

Selecting Special Effects

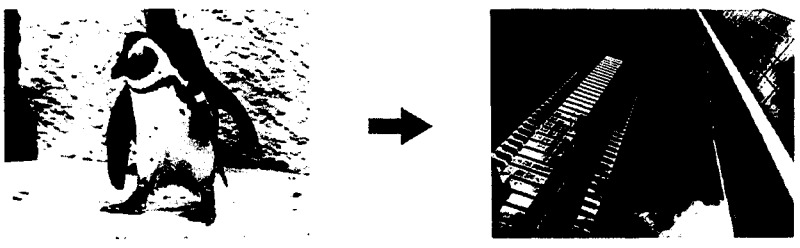
You can choose from among four kinds of special effects to switch between or combine two video signals: cut, dissolve, wipe, and key.

This section will describe how to select and combine these effects. Note that the descriptions assume that transitions begin with the fader lever, AUDIO FOLLOW button and transition indicators in the following state.

Fader lever: Pushed all the way toward side A.
AUDIO FOLLOW button: Lit
Transistion indicators: Topmost indicator on side A is lit, and all others are off.

Cut

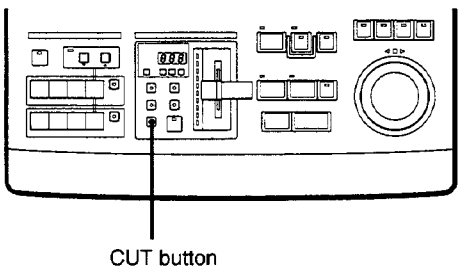
Cut is an effect which switches instantly between two video signals.
If there are audio inputs to the buses, they are cut in synchronization with the video signals.



Cut

Executing the cut effect

To excute a cut, wait for the desired scene and then press the CUT button in the EFFECT TRANSITION section. The cut takes place immediately.



Executing a cut

Notes

- When using effects such as wipe and dissolve, you can still get a cut effect by pressing the CUT button. The cut takes place as as soon as you press the button.
- In A/B roll editing, set the transition time to 0.

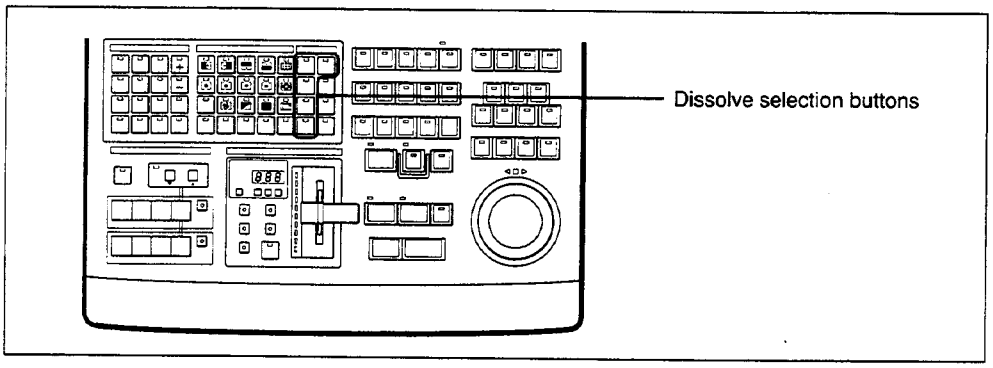
For details, see "Setting the Transition Time" (page 5-58).

Dissolve

Dissolve (or mix) is a cross-fade effect which fade outs A-bus video while fading in B-bus video. Midway through the transition, video signals from both buses overlap.
If there are audio inputs to the buses, they are cross-faded in synchronization with the video cross-fade.

Selecting a dissolve effect

Press one of the NORMAL MIX, MOSAIC MIX, POSTRZ MIX, B&W MIX and LUMINA CLIP TRANS buttons in the MIX/EFFECT section.



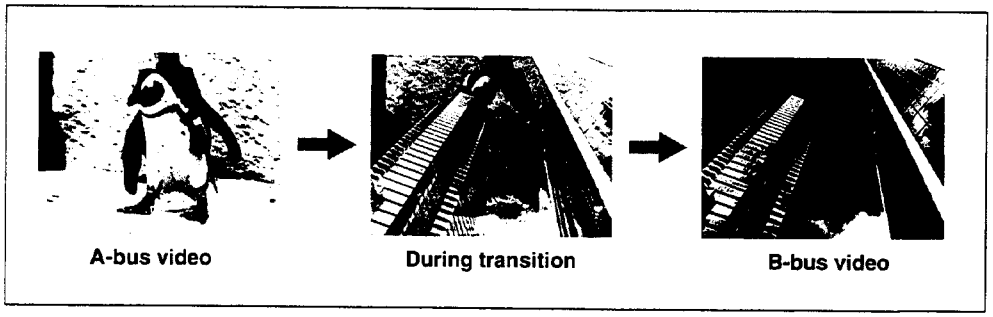
Selecting a dissolve effect

Dissolve types

The types of effect selectable with the dissolve selection buttons are as follows.

NORMAL MIX button

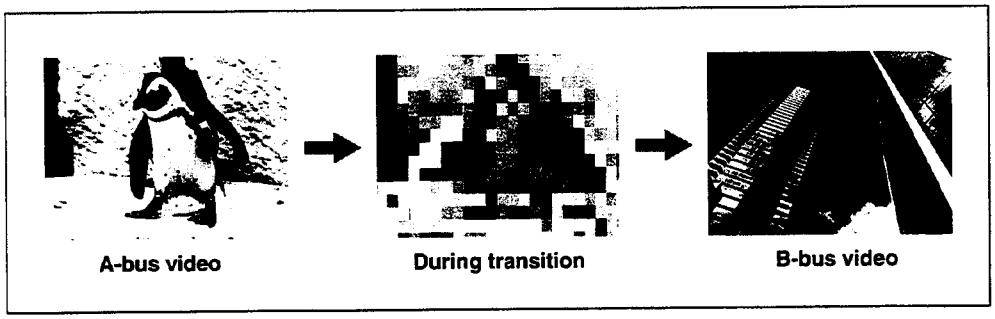
This button selects a standard dissolve effect.



NORMAL MIX dissolve

MOSAIC MIX button

A mosaic pattern appears during the transition.



MOSAIC MIX dissolve

To cancel a mosaic mix, press the NORMAL MIX button.

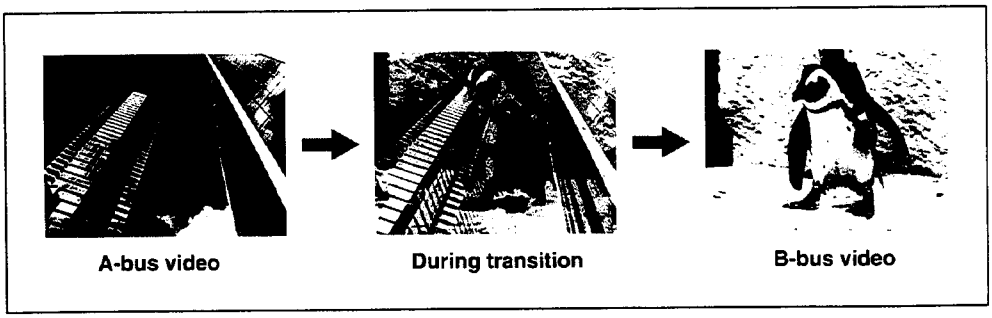
Note

Mosaic mix cannot be combined with the following input effects.

- Multi-screen (MULTI) (*page 5-47*)
- Multi-screen 2 (MULTI 2) (*page 5-47*)
- Mosaic (MOSAIC) (*page 5-55*)
- Zoom (ZOOM) (*page 5-53*)

POSTRZ (posterization) MIX button

During the transition, hues are simplified by quantizing brightness to the levels 16→8→4→8→16, for a poster-like effect.



POSTRZ MIX dissolve

To cancel a posterization mix, press the NORMAL MIX button.

Note

A posterization mix cannot be combined with the posterization input effect (*page 5-50*).

B&W MIX button

During the transition, the image changes to black and white before returning to color.
To cancel a B&W mix, press the NORMAL MIX button.

LUMINA (luminance) CLIP TRANS (transition) button

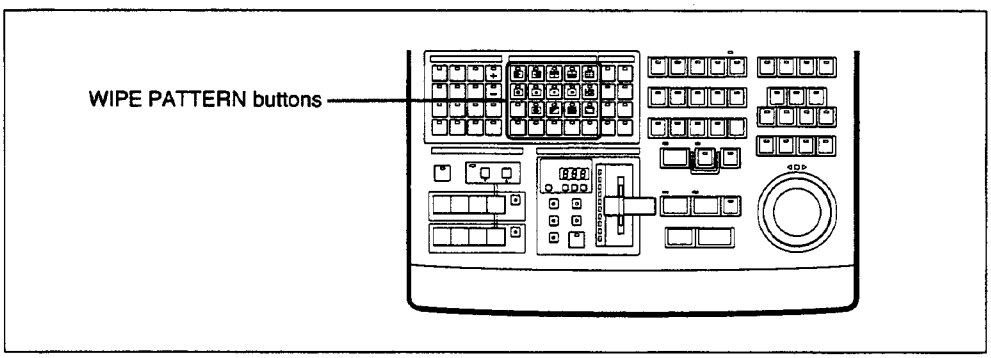
This effect provides one type of luminance key. As the transition proceeds, portions of B-bus video of progressively increasing brightness are replaced by the corresponding portions of A-bus video.
If the REVERSE button in the EFFECT TRANSITION section is lit, the brighter portions of A-bus video are inserted first, followed by the darker portions.
To cancel the luminance clip transition effect, press the NORMAL MIX button, or press the LUMINA CLIP TRANS button once more.

Wipe

A wipe is an effect which uses a geometrical pattern to replace A-bus video with B-bus video.
If there are audio inputs to the buses, they are cross-faded as the video wipe progresses.

Selecting a wipe effect

Press one of the buttons in the WIPE PATTERN section, turning it on.



Selecting a wipe effect

Note

You may see some momentary picture breakup if you change the wipe pattern with the fader lever positioned midway between the A-bus and B-bus sides. This is normal and not a malfunction in the unit.

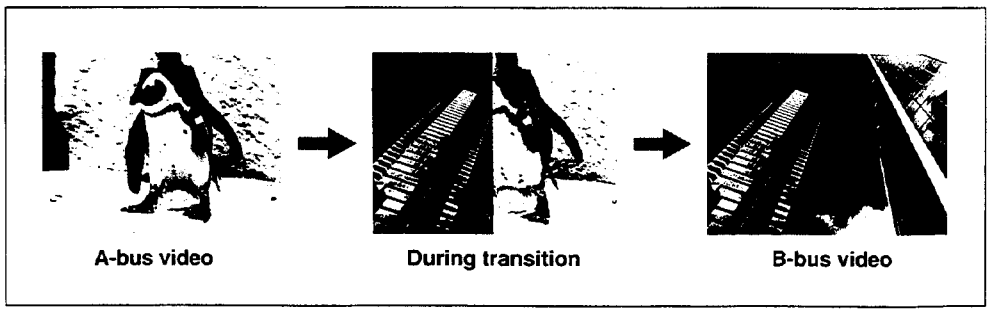
Wipe patterns

The wipe patterns selectable with the buttons in the WIPE PATTERN section are as follows.

Horizontal and vertical wipe buttons ( ).

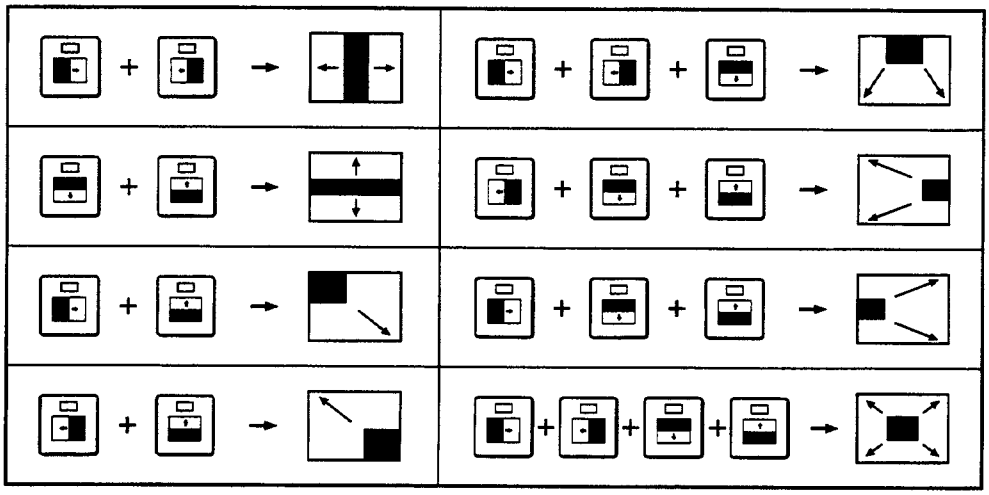
B-bus video appears on the edge of A-bus video. The pattern (B-bus video) expands in the direction indicated by the arrow, replacing A-bus video.

Example: Wipe selected with button



Wipe selected with button

A variety of patterns can be created by pressing more than one of the horizontal and vertical wipe buttons. Following are some examples.



Combined horizontal and vertical wipe patterns

Notes

- You can change the position of the pattern ( ) created by pressing all four of the buttons or by pressing the button.

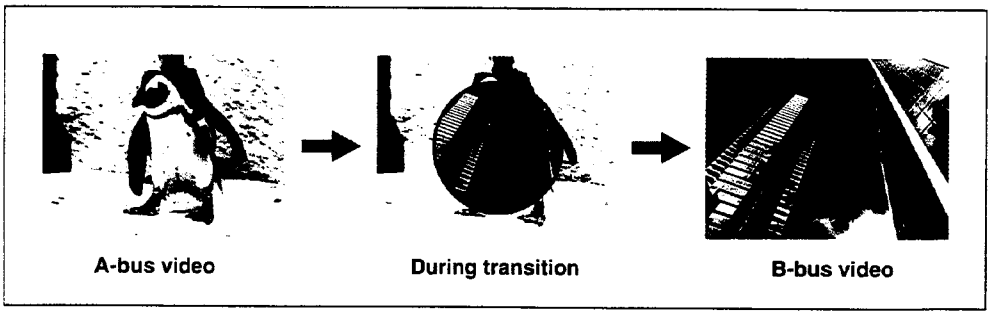
  For details, see "Changing the pattern position" (page 5-38).

- When two or more of the horizontal/vertical wipe buttons are lit, cancel a pattern selection by pressing the appropriate button, turning it off.

buttons

B-bus video appears in the center of A-bus video, and replaces A-bus video as the pattern expands.

Example: Wipe selected with button



Wipe selected with button

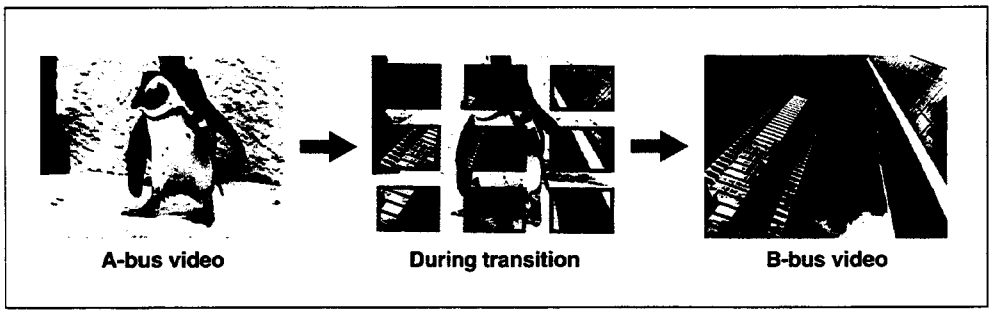
Note

You can change the position of these patterns.

For details, see "Changing the pattern position" (page 5-38).

button

A-bus video is divided into a 3 by 3 grid, and B-bus video appears in center of each of the small blocks, expanding to replace A video.



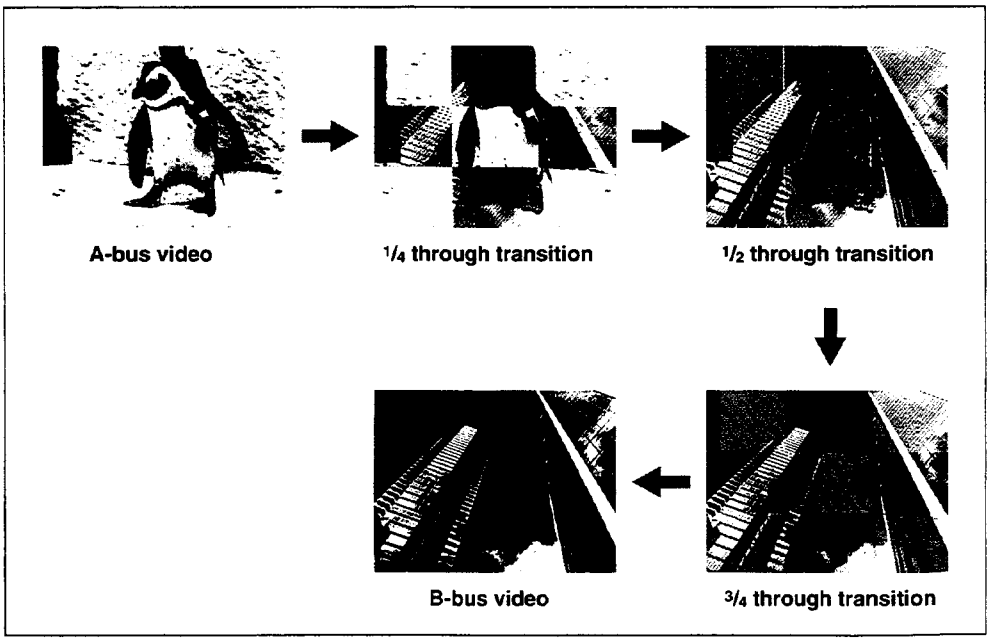
Wipe selected with button

Note

You can use this wipe in combination with the multi-screen input effect (MULTI, MULTI 2 buttons).

button

B-bus video appears as thin stripes in four locations, and expands to the right. At a stage 1/4 of the way through the transition, the screen is divided into a 3 by 3 grid, like the pattern shown on the button. Subsequent stages are shown below.



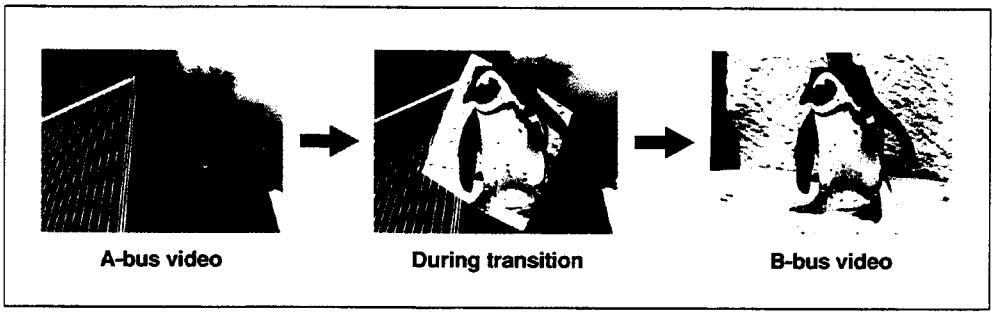
Wipe selected with button

Note

This wipe can be combined for impressive effects with the multi-screen input effect (MULTI, MULT2 buttons).

button

B-bus video appears in the center of A-bus video, and replaces A-bus video as the pattern expands. During the transition the square pattern rotates in a clockwise direction.



Wipe selected with button

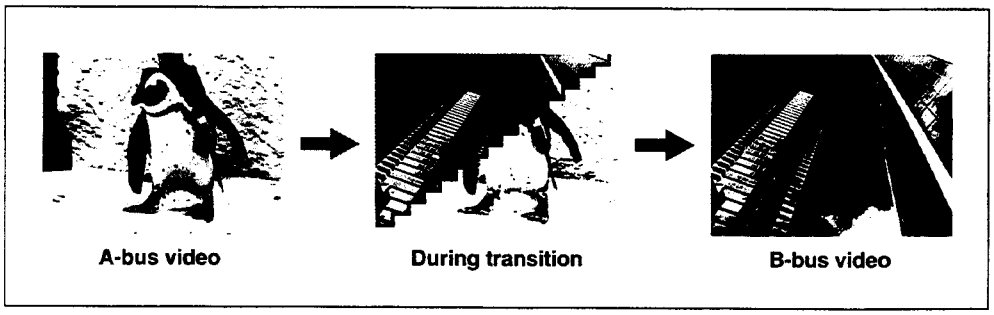
Note

You can change the position of this pattern.

For details, see "Changing the pattern position" (page 5-38).

button

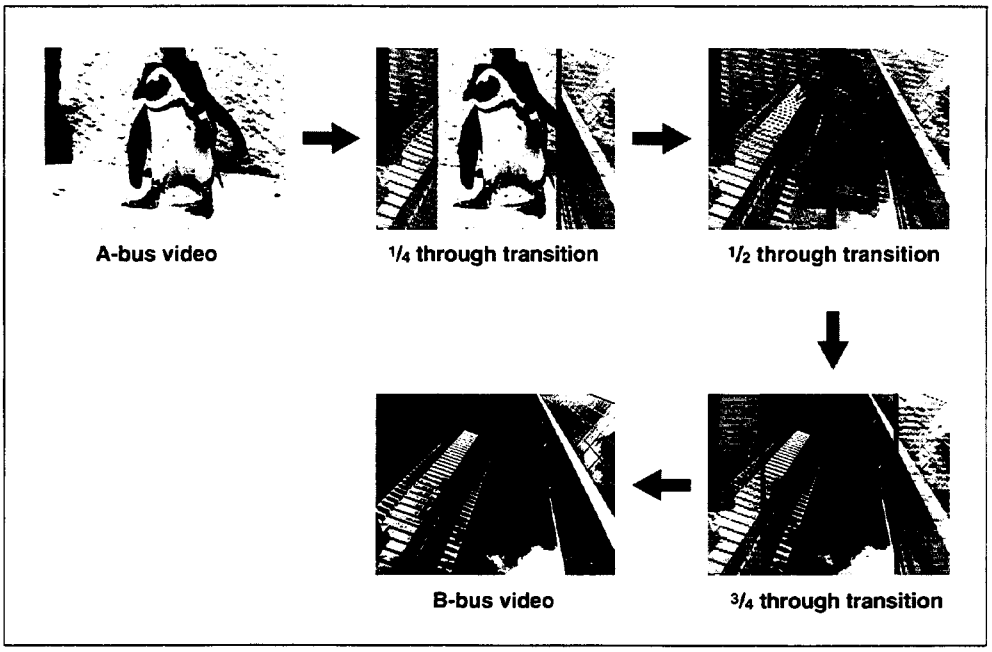
B-bus video appears in the upper left corner of A-bus video, and replaces A-bus video as the zigzag border moves toward the lower right.



Wipe selected with button

button

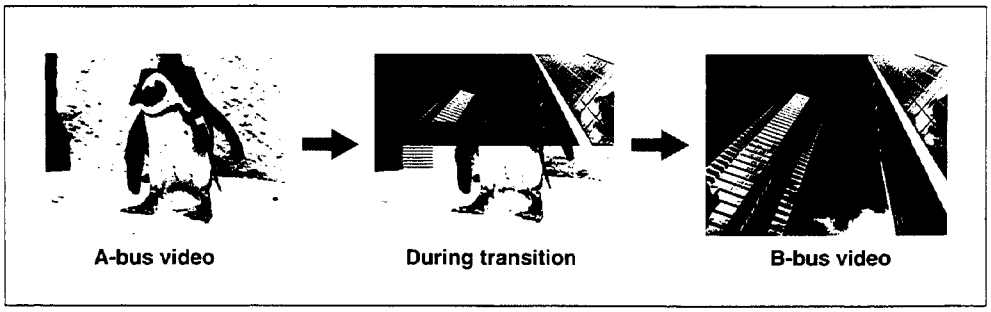
B-bus video appears as thin stripes on the left and right sides of A-bus video, and replaces A-bus video as the stripes move toward the center. Halfway through the transition, the stripes meet in the center of the screen. Subsequent stages are shown below.



Wipe selected with button

button

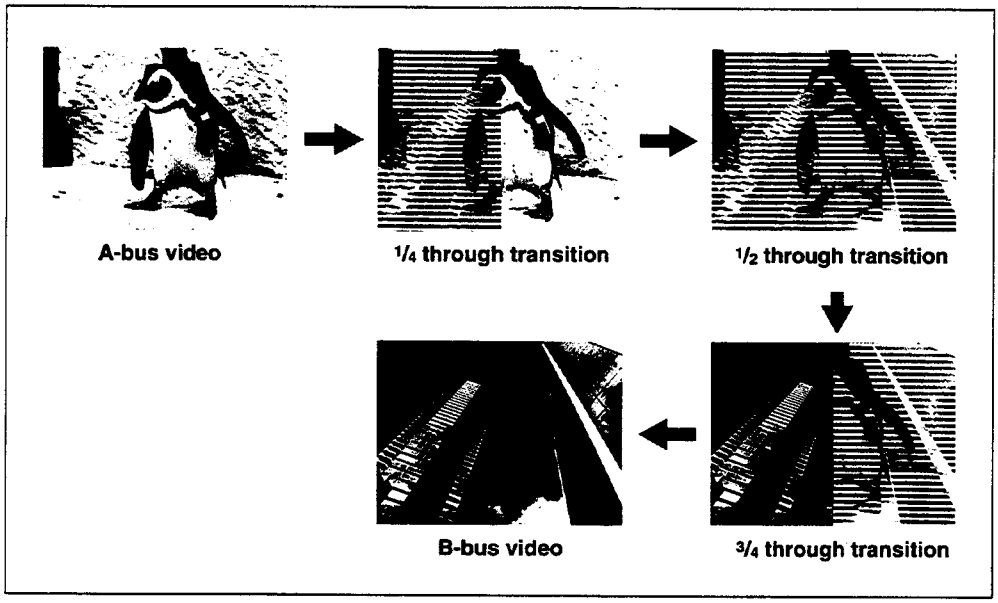
A striped band appears in the upper left corner of A-bus video. B-bus video replaces A-bus video as the band snakes through the screen in the direction shown by the arrow.



Wipe selected with button

SPLIT SLIDE button

Stripes of B-bus video appear at the edge of A-bus video, and reach the opposite side halfway through the transition. As the transition progresses, stripes of A-bus video begin to slide off the screen, finally leaving only B-bus video.



Wipe selected with the SPLIT SLIDE button

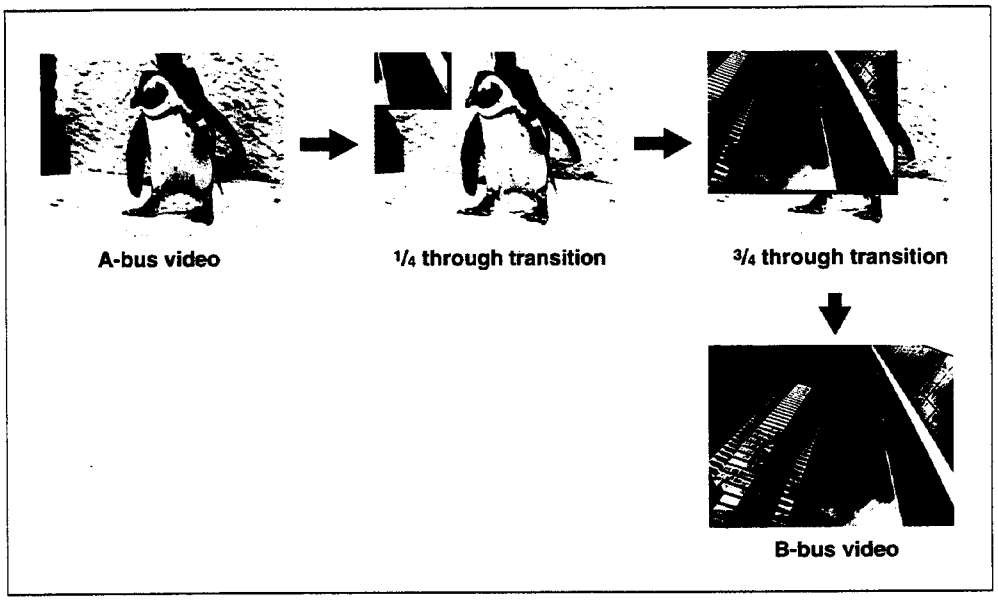
Notes

- The direction of the slide can be changed with the horizontal/vertical wipe buttons ( ).
- A split slide can be combined with a scroll wipe (*page 5-37*), although the combined transition may not be as smooth as a normal transition.

  For details, see "Selecting the wipe direction" (page 5-39).

SLIDE IN button

B-bus video slides in, replacing A-bus video.



Wipe selected with the SLIDE IN button

Notes

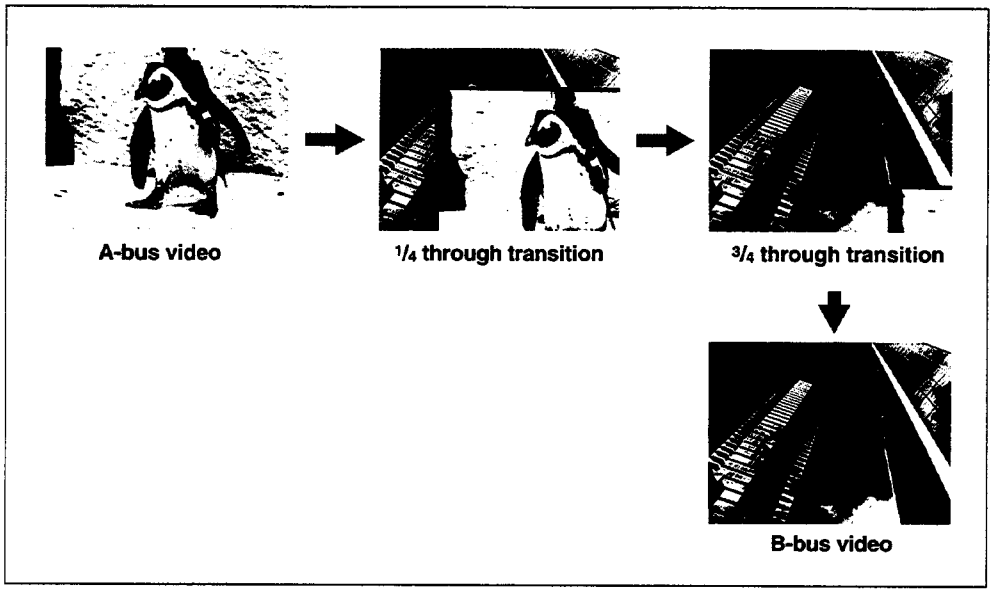
- The direction of the slide can be changed with the horizontal/vertical wipe buttons ( ).

  For details, see "Selecting the wipe direction" (page 5-39).

- The transition in the slide in effect may not always be as smooth as a normal transition.
- The slide in effect cannot be combined with the mosaic (*page 5-55*) and zoom (*page 5-53*) input effects.

SLIDE OUT button

A-bus video slides out, leaving B-bus video.



Wipe selected with the SLIDE OUT button

Notes

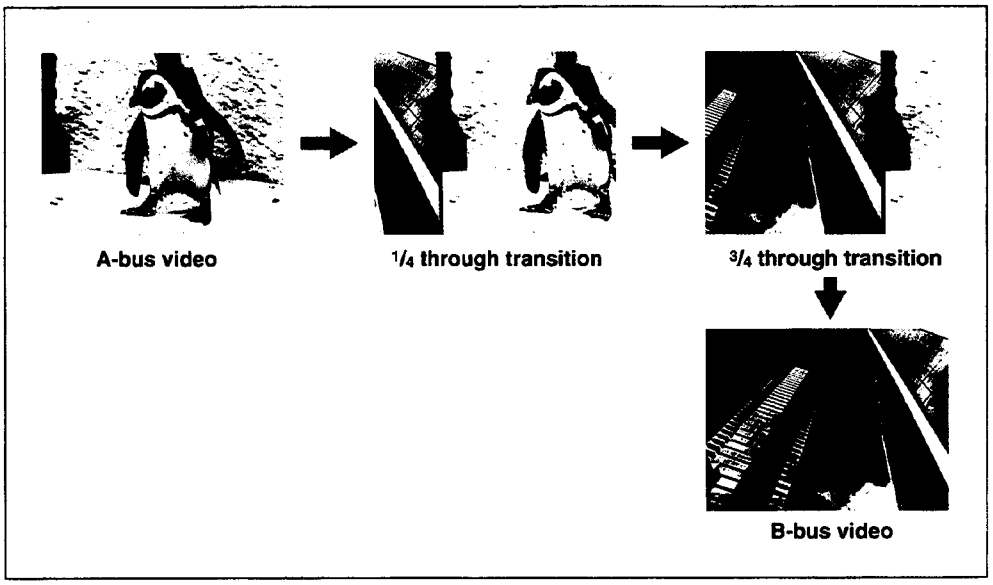
- The direction of the slide can be changed with the horizontal/vertical wipe buttons ( ).

  For details, see "Selecting the wipe direction" (page 5-39).

- The transition in the slide out effect may not always be as smooth as a normal transition.
- The slide out effect cannot be combined with the mosaic (*page 5-55*) and zoom (*page 5-53*) input effects.

SCROLL button

B-bus video slides in, while A-bus video slides out.



Wipe selected with the SCROLL button

Notes

- The direction of the scroll can be changed with the horizontal/vertical wipe buttons ( ).

  For details, see "Selecting the wipe direction" (page 5-39).

- The transition in the scroll effect may not always be as smooth as a normal transition.
- The scroll effect can be combined with a split slide wipe (*page 5-34*).
- The scroll effect cannot be combined with the mosaic (*page 5-55*) and zoom (*page 5-53*) input effects.

USER 1 and USER 2 buttons

Frequently used patterns can be assigned to these buttons, using item 201 WIPE PATTERN in the setup menu.

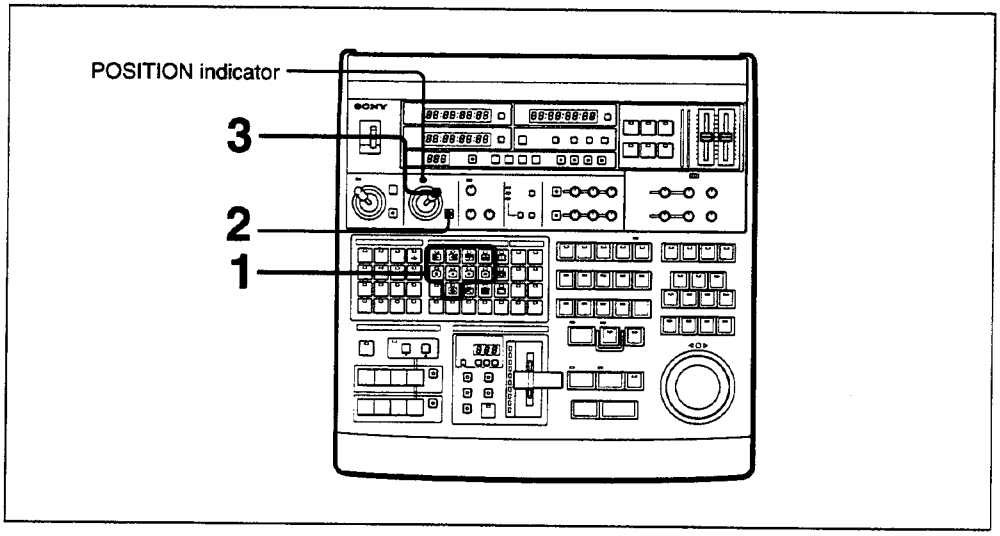
For details, see Chapter 8.

Changing the pattern position

You can change the center positions of the following patterns.

- Patterns selected with the buttons.
- The pattern ( ) obtained by pressing and lighting all of the buttons.

To change the positions, proceed as follows.



Changing a pattern position

1 Select a pattern with a button in the WIPE PATTERN section.
The POSITION indicator lights.

2 Press the POSITION ON/OFF button.
The button lights, and the POSITION joystick is enabled.

3 While viewing the monitor, move the joystick to adjust the pattern position.

To restore the original pattern position

Press the POSITION ON/OFF button, turning it off.

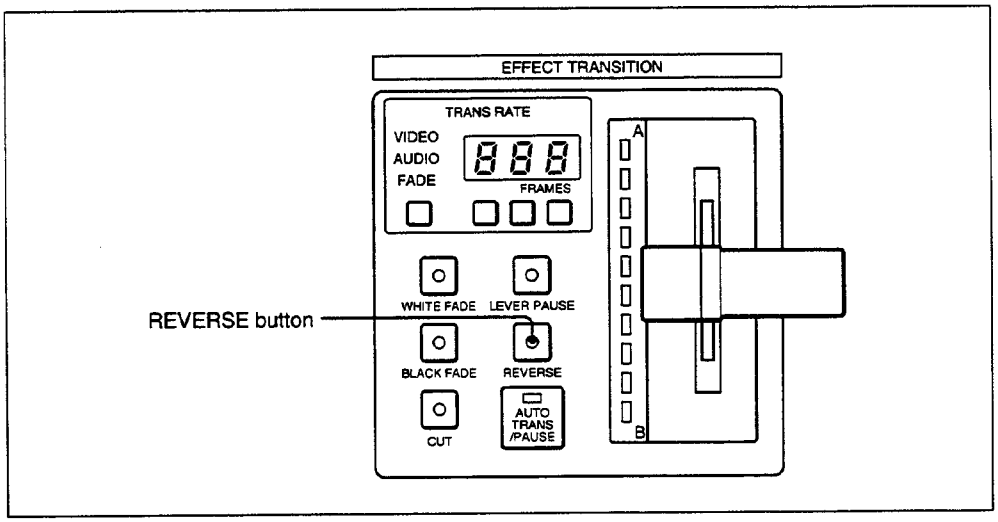
Notes

- The POSITION ON/OFF button should normally be off, except when you are intentionally changing a pattern position.
- When the POSITION ON/OFF button is on, some wipe patterns are slightly larger than normal.

Selecting the wipe direction

To reverse the wipe direction

Press the REVERSE button in the EFFECT TRANSITION section, turning it on.



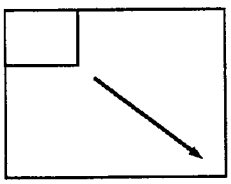
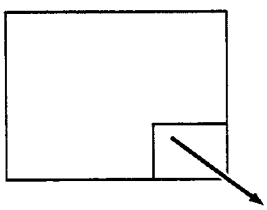
To reverse the wipe direction

To change the direction of a specific wipe

When using effects selected with the SPLIT SLIDE, SLIDE IN, SLIDE OUT and SCROLL buttons, the horizontal and vertical wipe buttons ( ) may be used to change the direction.

- **SPLIT SLIDE and SCROLL**
  Press one of the horizontal or vertical wipe buttons, so that it begins to flash.
- **SLIDE IN and SLIDE OUT**
  Press one of the horizontal or vertical wipe buttons, so that it begins to flash.
  If you press one each of the horizontal wipe buttons ( ) and the vertical wipe buttons ( ), the direction becomes a slant.

Example: If and are flashing

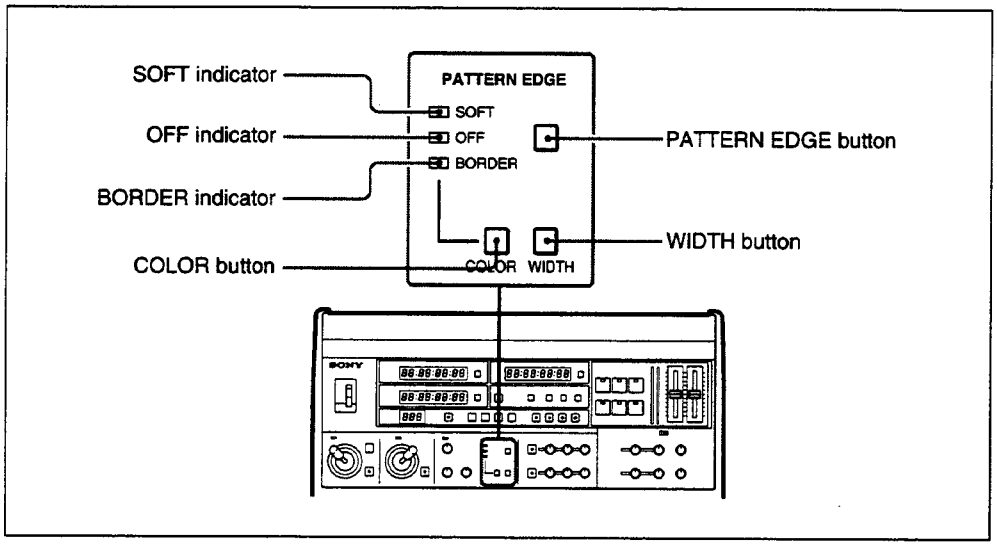
SLIDE IN	SLIDE OUT
	
B-bus video slides in from upper left.	A-bus video slides out from lower right.

Notes

- To extinguish a flashing horizontal or vertical wipe button, press it once more.
- If you select a slide or scroll wipe with one of the horizontal or vertical wipe buttons, and then select another wipe or mix by pressing the SPLIT SLIDE, SLIDE IN, SLIDE OUT or SCROLL button, the most recently pressed horizontal or vertical wipe button starts to flash.

Adjusting pattern edges

Except in the case of wipes selected with the [ ], [ ] and [ ] buttons, it is possible to adjust the pattern edge at the border between A-bus and B-bus signals. Use the controls in the PATTERN EDGE section.



Adjusting pattern edges

To make the edge softer

Press the PATTERN EDGE button, lighting the SOFT indicator.

To make the edge sharper

Press the PATTERN EDGE button, lighting the OFF indicator.

To give the edge a colored border

Press the PATTERN EDGE button, lighting the BORDER indicator, and then press the COLOR button to select one of the 15 border colors. The colors change in the opposite order if you hold down the SHIFT button while pressing the COLOR button.

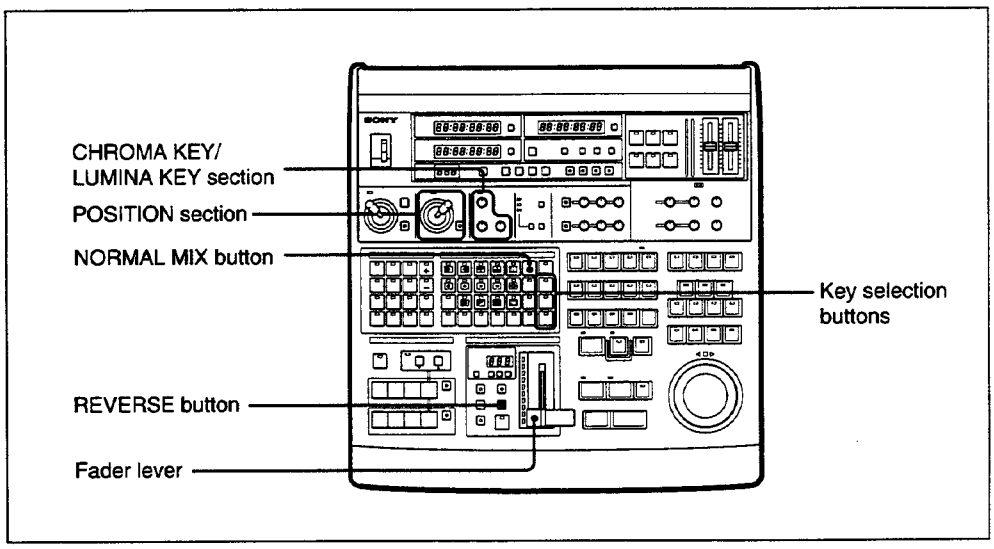
To change the border width

Press the PATTERN EDGE button, lighting the BORDER indicator, and then press the WIDTH button to change the width in three steps.

Key

This effect removes certain portions of B-bus video, replacing them with A-bus video.

The following controls are used in key effect operations.



Key effect controls

Selecting a key effect

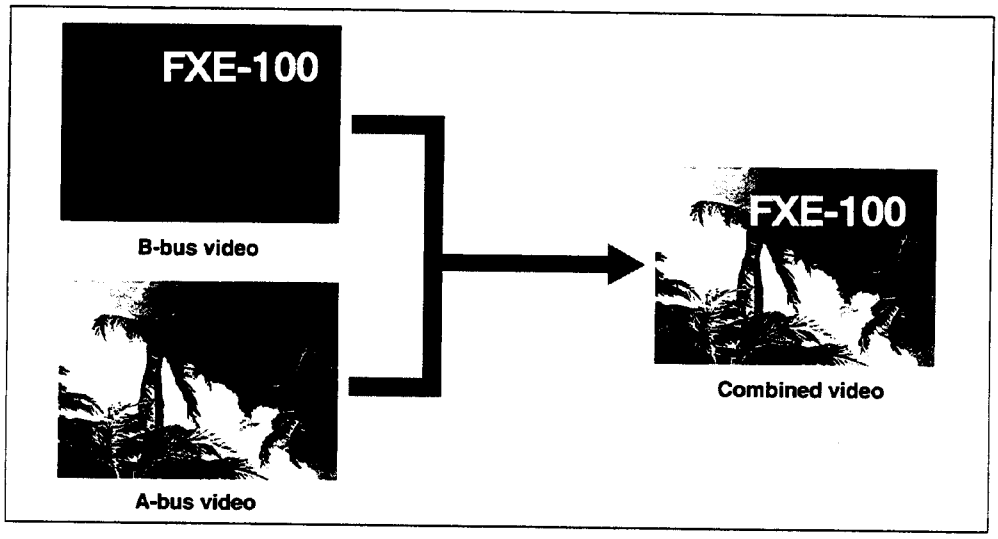
To select a key effect, pull the fader lever all the way down to the B side and press one of the key selection buttons (LUMINA KEY, CHROMA KEY or P IN P) in the MIX/EFFECT section, turning it on.

Key types

The effects selectable with the key selection buttons are as follows.

LUMINA (luminance) KEY button

Portions of B-bus video whose luminance (brightness) is equal to or higher than a specified reference level are replaced by A-bus video.



Luminance key

The reference luminance level is specified using knobs in the CHROMA KEY/ LUMINA KEY section.

- For bright sections of the video, use the CLIP/CLIP HIGH knob.
- For dark sections, use the GAIN/CLIP LOW knob.

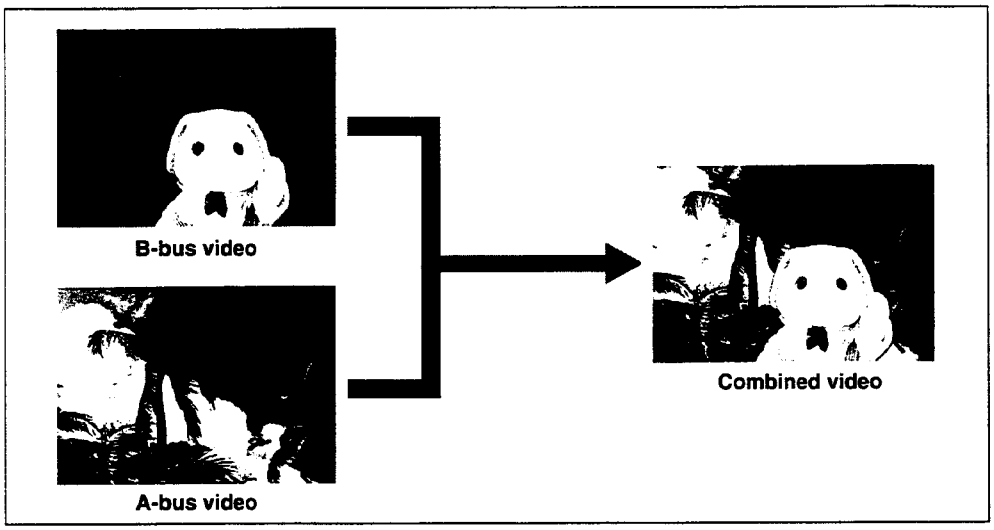
To cancel the luminance key effect, press the NORMAL MIX button, or press the LUMINA KEY button once more.

Note

The luminance key effect can be used in combination with SLIDE IN or SLIDE OUT wipes.

CHROMA KEY button

Portions of B-bus video of a specified color are replaced by A-bus video.



Chroma key

The reference color is specified using knobs in the CHROMA KEY/LUMINA KEY section.

- Specify the hue with the HUE knob.
- Specify the saturation with the CLIP/CLIP HIGH knob.
- To adjust the brightness of the inserted video (A-bus video), use the GAIN/CLIP LOW knob.

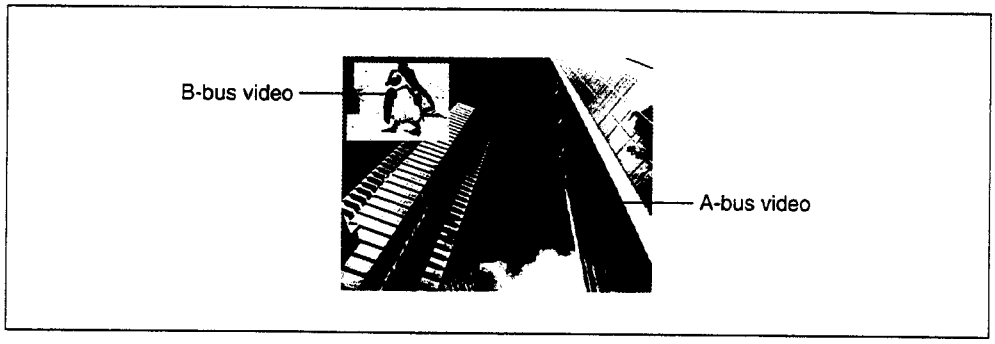
To cancel the chroma key effect, press the NORMAL MIX button, or press the CHROMA KEY button once more.

Note

When the chroma key effect is selected, the zoom input effect cannot be applied to B-bus video.

P IN P (picture-in-picture) button

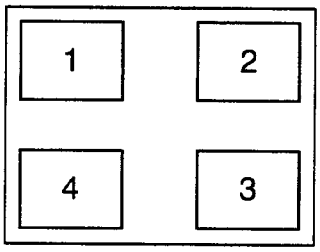
B-bus video is reduced to 1/3 normal size both horizontally and vertically, and inserted into A-bus video.



Picture in picture

There are two ways to specify the position at which B-bus video will be inserted.

- Press the lit P IN P button while holding down the SHIFT button.



Each time the button is pressed, B-bus video changes position in the order 1→2→3→4→1...
(In the actual picture, the reduced video will be slightly further left than the positions shown.)

- Press the POSITION ON/OFF button in the POSITION section, turning it on, and adjust the position with the POSITION joystick.

To cancel the picture-in-picture effect, press the NORMAL MIX button or press the P IN P button once more.

Notes

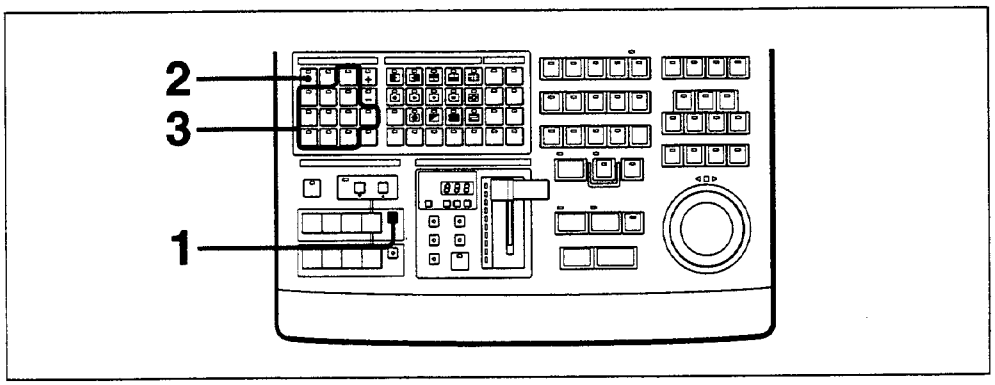
- When the P IN P button is lit, wipe patterns selected with the , , and buttons appear in the reduced video.
- Picture-in-picture video consists of a single field, so the B-BUS and FIELD/FRAME buttons in the INPUT EFFECT section light automatically when the P IN P button is lit.
- When the P IN P button is lit, the following input effects cannot be applied to B-bus signals.
  - Multi-screen (MULTI) (*page 5-47*)
  - Multi-screen 2 (MULTI 2) (*page 5-47*)
  - Mosaic (MOSAIC) (*page 5-55*)
  - Zoom (ZOOM) (*page 5-53*)
  - Picture trail (PIX TRAIL) (*page 5-49*)

Input Effects

In addition to video switching effects such as wipes, you can apply digital effects to bus signals with the buttons in the INPUT EFFECT section. These effects may be applied independently to bus A and bus B.

Proceed as follows to select digital effects for each bus.

Example: Selecting input effects for bus A



Selecting digital effects for bus A

1 Press the A-BUS INPUT EFFECT ON/OFF button in the VIDEO INPUT SELECT section, turning it on.

2 Press the A-BUS button in the INPUT EFFECT section, turning it on.

3 Press the INPUT EFFECT button corresponding to the desired effect. You can press several buttons for combined effects.

For more information about combined effects, see "Combined input effects" (page 5-56).

Follow the same procedure to select input effects for B-bus video.

Note

If setup menu item 306 INPUT EFFECT AUTO SELECT has been set to ON, input effects are applied automatically to the bus selected by the fader lever. The A-BUS and B-BUS buttons in the INPUT EFFECT section are disabled and do not light when pressed.

For details, see Chapter 8.

Freeze

This effect reads a video frame into a frame memory buffer, and outputs a still picture (freeze frame) consisting of the contents of frame memory. Digital effects such as monotone and mosaic may be applied to the frame memory output.

To select the freeze effect

Press the FREEZE button, turning it on.

About frame freeze and field freeze

When the FREEZE button lights, the FRAME/FIELD button lights automatically. While it is lit, the freeze video output consists of a single field, which may reduce blurring if there is rapid motion in the picture.

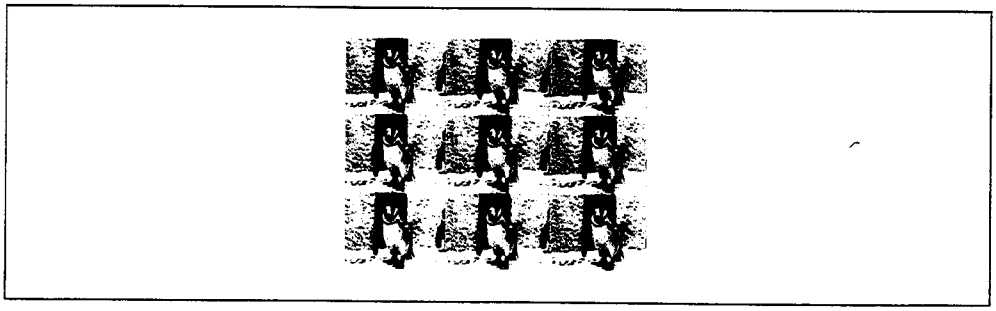
To select output of a complete frame (two fields), press the FRAME/FIELD button, turning it off.

To return to normal playback

Press the FREEZE button, turning it off, or press the RESET button, turning it on.

Multiple screens

The screen is split into a 3 by 3 grid, with reduced video in each window.



Multiple screens

To select the multi-screen effect

Press the MULTI or MULTI 2 button.

The button lights, and moving video reduced to 1/3 normal size both vertically and horizontally appears in the upper left corner.

- You can change the position of the moving video by pressing the '+' and '–' keys in the numeric keypad.
- Multi-screen effects can be combined with the strobe effect.

When the '+' and '–' keys are pressed

When the MULTI button is lit

1	2	3
4	5	6
7	8	9

+ key

When the '+' key is pressed for the first time, the video in block 1 changes to a still picture and the video in block 2 begins to move. Each time the key is pressed, the moving video moves to the next block, in the order shown at left. When the moving video reaches block 9, pressing the '+' key stops motion in all blocks. Press it again and the video in block 1 starts to move.

1	9	8
7	6	5
4	3	2

– key

When the '–' key is pressed for the first time, the video in block 1 changes to a still picture and the video in block 2 begins to move. Each time the key is pressed, the moving video moves to the next block, in the order shown at left. When the moving video reaches block 9, pressing the '–' key makes the video in block 1 start to move. Press it again and the video stops in all blocks.

When the MULTI 2 button is lit

1	2	3
8	9	4
7	6	5

+ key

The effect is the same as the MULTI effect, except that the order is as shown at left.

1	9	8
3	2	7
4	5	6

– key

The effect is the same as the MULTI effect, except that the order is as shown at left.

When the STROBE button is pressed

When the MULTI button is lit

1	2	3
4	5	6
7	8	9

STROBE plus MULTI effect

Pressing the STROBE button while the MULTI button is lit causes the blocks shown at left to change to still video, one after the other in the order shown. When block 9 is reached, new still pictures begin to appear from the upper left block in the order 1→2→3..., repeating the process indefinitely until the STROBE button is pressed once more, turning it off.
The '+' and '–' keys can be used to adjust the strobe interval. Pressing the '+' key increases the interval and pressing the '–' key decreases it. When the maximum or minimum interval is reached, the '+' or '–' key begins to flash.

When the MULTI 2 button is lit

1	2	3
8	9	4
7	6	5

STROBE plus MULTI 2 effect

Pressing the STROBE button while the MULTI 2 button is lit causes the blocks shown at left to change to still video, one after the other in the order shown. The strobe effect ends when block 9 is reached. Block 9 changes to a moving picture, and the other 8 blocks remain as still pictures.
You can adjust the strobe interval with the '+' and '–' keys before you execute an edit using this effect.

To return to normal playback

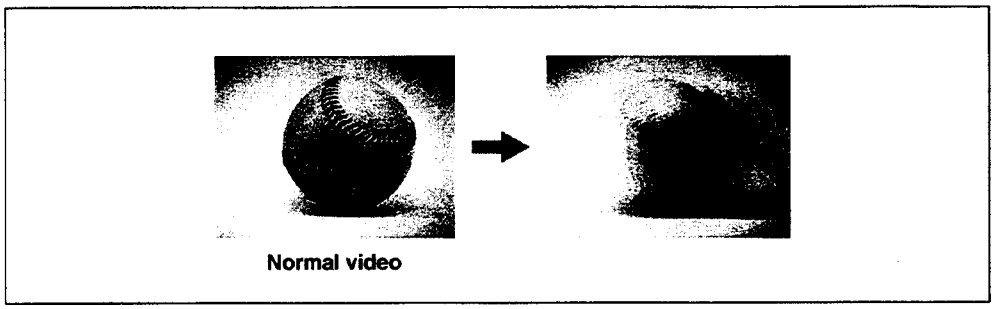
Press the MULTI or MULTI 2 button, turning it off, or press the RESET button, turning it on.
After returning to a normal picture, the MULTI or MULTI 2 button can be pressed again to recall the most recent multi-screen picture. The button lights, and a moving picture automatically appears in the most recently moving block.

Notes

- The multi-screen effect can be combined with wipes selected with the [ ] and [ ] buttons (*page 5-31*), for impressive multi-screen wipes.
- The multi-screen effect cannot be combined with the mosaic mix effects (*page 5-27*). Nor can it be applied to the reduced picture (B-bus video) in the picture-in-picture effect (*page 5-44*).

Picture trail

This effect creates a trail of images behind a moving subject.



Picture trail

To select the picture trail effect

Press the PIX TRAIL button, turning it on.

To return to normal playback

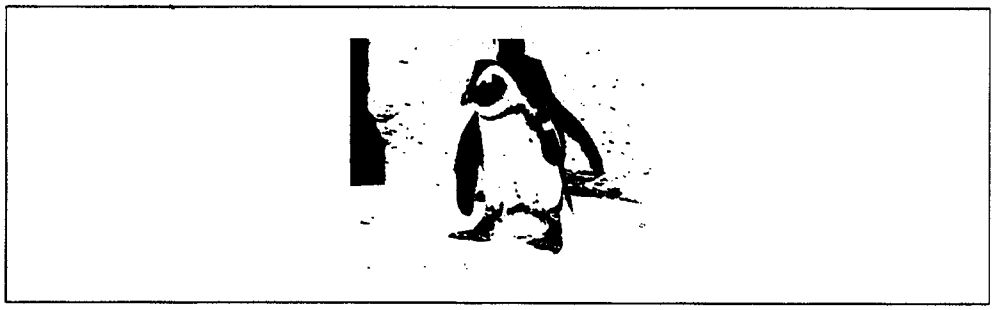
Press the PIX TRAIL button, turning it off, or press the RESET button, turning it on.

Notes

- It is not possible to adjust the length of time the trailing pictures remain visible.
- The picture trail effect cannot be applied to the reduced picture (B-bus video) in the picture-in-picture effect (*page 5-44*).

Posterization

This effect produces a picture with simplified hues, like a poster. The picture is simplified by quantizing brightness to 16, 8 or 4 levels.



Posterization

To select the posterization effect

Press the POSTRZ button, turning it on.

To adjust the number of levels

To reduce the number of levels (increase the posterization effect), press the '+' key in the numeric keypad. To increase the number of levels, press the '–' key.

To return to normal playback

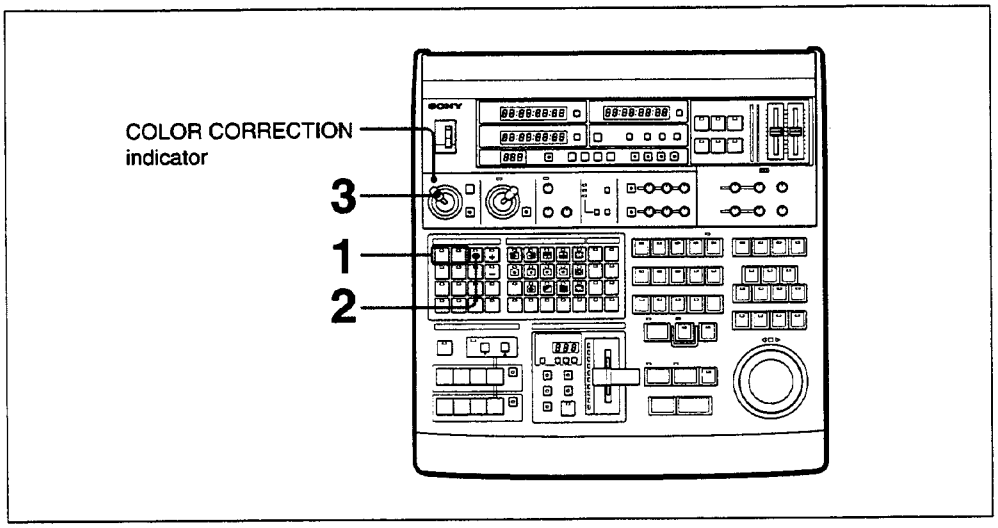
Press the POSTRZ button, turning it off, or press the RESET button, turning it on.

Note

The posterization input effect cannot be combined with a posterization dissolve.

Color correction

By using the color balance controls, you can adjust the white balance and change the overall tonal balance of the picture. Proceed as follows.

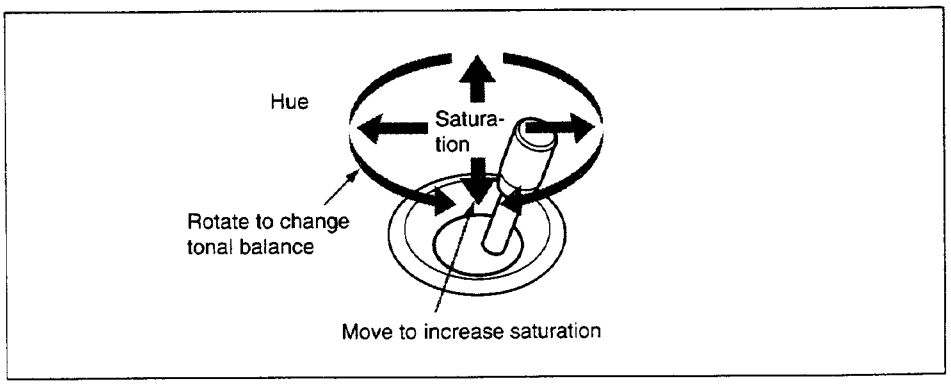


Performing color correction

1 Select the object of the color correction by pressing the A-BUS button or B-BUS button in the INPUT EFFECT section.

2 Press the COLOR CORRECT button in the INPUT EFFECT section, turning it on.
The COLOR CORRECTION indicator lights to show that the controls in the COLOR CORRECTION section are enabled.

3 While viewing the monitor, move the joystick to perform color correction.



About the correction range

The color correction range (sensitivity of the joystick) can be set to one of two steps under item 205 COLOR CORRECTION ADJUSTMENT WIDTH in the setup menu.

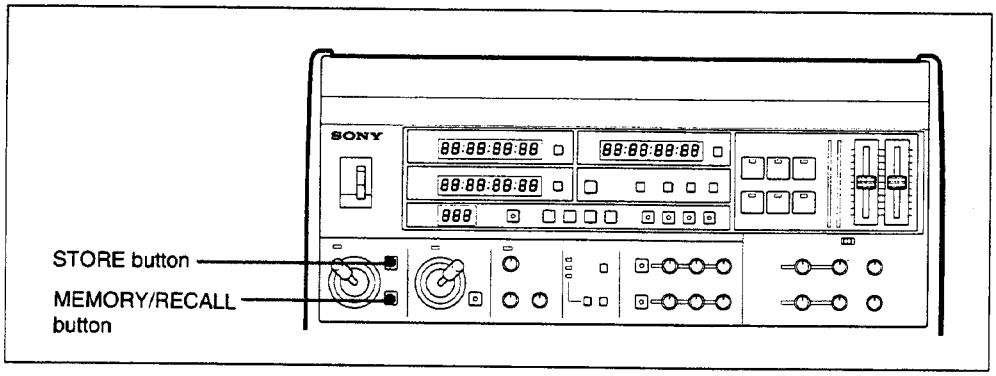
For details, see Chapter 8.

When adjusting the white balance

Find a portion of the picture that should appear as pure white. Then, while viewing the monitor, move the joystick until the white portion is shown as pure white.

To save the adjusted color values in memory

Press the STORE button together with the MEMORY/RECALL button.



Saving adjusted color values in memory

To load adjusted values from memory

Press the MEMORY/RECALL button only, turning it on. To return to the state before the values were recalled, press the button once more, turning it off.

To return to the original color balance

Press the COLOR CORRECT button, turning it off, or press the RESET button, turning it on.

Monotone

This effect produces a monotone (monochrome) picture.

To select the monotone effect

Press the MONOTONE button, turning it on.
Pressing the COLOR CORRECT button as well, turning it on, allows you to adjust the monotone color with the controls in the COLOR CORRECTION section.

To return to normal playback

Press the MONOTONE button, turning it off, or press the RESET button.

Strobe

This effect freezes the picture at selected frame intervals.

To select the strobe effect

Press the STROBE button, turning it on.

To select the frame interval

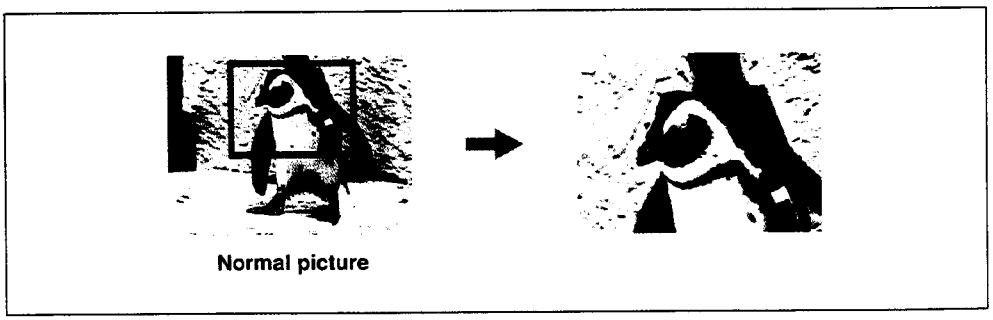
Press the '+' key in the numeric keypad to increase the frame interval, and the '–' key to decrease it. When the maximum or minimum interval is reached, the '+' or '–' key begins to flash.

To return to normal playback

Press the STROBE button, turning it off, or press the RESET button, turning it on.

Zoom

This effect expands a selected area of the picture to fill the entire screen.



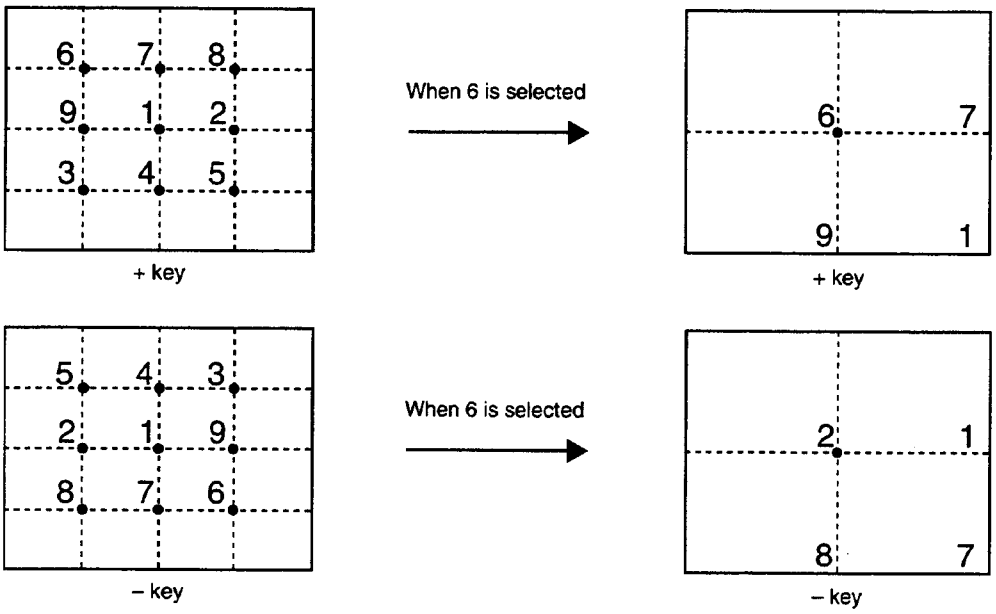
Zoom

To select the zoom effect

Press the ZOOM button, turning it on.

To select the zoom center

Press the '+' or '–' key. Pressing the key selects a set of four zoom blocks, centered around the dots numbered 1 to 9 in the illustrations below. The four blocks around the dots are doubled in size vertically and horizontally.



(In the actual picture, zoom centers will be sightly to the left of the positions shown by the dots in the illustrations above.)

To return to normal playback

Press the ZOOM button, turning it off, or press the RESET button, turning it on. If you press the ZOOM button again, the most recently selected blocks automatically expand to fill the screen.

Note

The zoom effect cannot be combined with the following wipes.

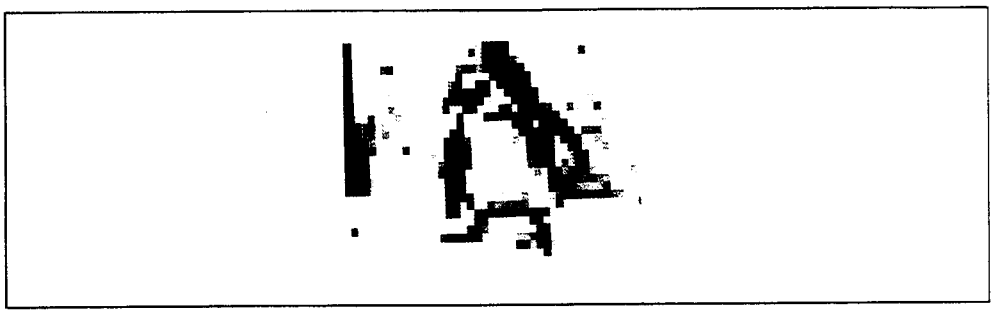
- SLIDE IN (*page 5-35*)
- SLIDE OUT (*page 5-36*)
- SCROLL (*page 5-37*)
- MOSAIC MIX (*page 5-27*)

The zoom effect cannot be applied to the following kinds of video.

- The reduced picture (B-bus video) in the picture-in-picture effect (*page 5-44*).
- B-bus video in the CHROMA KEY effect (*page 5-43*).

Mosaic

This effect applies a mosaic grid to the picture. The coarseness of the mosaic can be adjusted.



Mosaic

To select the mosaic effect

Press the MOSAIC button, turning it on.

To adjust the coarseness of the mosaic

Press the '+' key for a coarser grid, and the '–' key for a finer one. The coarseness can be adjusted in four steps. When the maximum or minimum level is reached, the '+' or '–' key begins to flash.

To return to normal playback

Press the MOSAIC button, turning it off, or press the RESET button, turning it on.

Note

The mosaic effect cannot be combined with the following effects.

- MOSAIC MIX (*page 5-27*)
- SLIDE IN (*page 5-35*)
- SLIDE OUT (*page 5-36*)
- SCROLL (*page 5-37*)

Note also that the mosaic effect cannot be applied to B-bus reduced video when the picture-in-picture (P IN P) (*page 5-44*) effect is selected.

Combined input effects

You can combine input effects in various ways. The tables below show the results of button combinations.

Table A shows the effects obtained when one button in the INPUT EFFECT section is lit and another button is pressed.
Tables B-1 and B-2 show the effects obtained when two buttons are lit and a third button is pressed.

Note

The posterization (POSTRZ button) and monotone (MONOTONE button) effects can be combined with any other input effect. Therefore they are omitted from the tables below.

Combined input effects (A)

	Field[a]					Field or Frame[b]	
Pressed first / Pressed second	**MOSAIC**	**MULTI**	**MULTI 2**	**STROBE**	**ZOOM**	**FREEZE**	**PIX TRAIL**
MOSAIC	Off	MOSAIC	MOSAIC	STROBE MOSAIC	MOSAIC	FREEZE MOSAIC	PIX TRAIL MOSAIC
MULTI	MULTI	Off	MULTI	STROBE MULTI	MULTI	MULTI	MULTI
MULTI 2	MULTI 2	MULTI 2	Off	STROBE MULTI 2	MULTI 2	MULTI 2	MULTI 2
STROBE	MOSAIC STROBE	MULTI STROBE	MULTI 2 STROBE	Off	ZOOM STROBE	STROBE	PIX TRAIL STROBE
ZOOM	ZOOM	ZOOM	ZOOM	STROBE ZOOM	Off	ZOOM	ZOOM
FREEZE	MOSAIC FREEZE	MULTI FREEZE	MULTI 2 FREEZE	FREEZE	ZOOM FREEZE	Off	PIX TRAIL FREEZE
PIX TRAIL	MOSAIC PIX TRAIL	PIX TRAIL	PIX TRAIL	STROBE PIX TRAIL	PIX TRAIL	PIX TRAIL	Off

a) The effects are applied to field data.
b) The effects are applied to field data if the FRAME/FIELD button is lit. Otherwise they are applied to frame data.

Combined input effects (B-1)

Pressed first / Pressed second	Field[a]						
	MOSAIC STROBE	**MOSAIC FREEZE**	**MULTI STROBE**	**MULTI FREEZE**	**MULTI 2 STROBE**	**MULTI 2 FREEZE**	**STROBE ZOOM**
MOSAIC	STROBE	FREEZE	STROBE MOSAIC	FREEZE MOSAIC	STROBE MOSAIC	FREEZE MOSAIC	STROBE MOSAIC
MULTI	STROBE MULTI	MULTI	Off	Off	STROBE MULTI	MULTI	STROBE MULTI
MULTI 2	STROBE MULTI 2	MULTI 2	STROBE MULTI 2	MULTI 2	Off	Off	STROBE MULTI 2
STROBE	MOSAIC	MOSAIC STROBE	MULTI	MULTI STROBE	MULTI 2	MULTI 2 STROBE	ZOOM
ZOOM	STROBE ZOOM	ZOOM	STROBE ZOOM	ZOOM	STROBE ZOOM	ZOOM	STROBE
FREEZE	MOSAIC FREEZE	MOSAIC	MULTI FREEZE	MULTI	MULTI 2 FREEZE	MULTI 2	ZOOM FREEZE
PIX TRAIL	MOSAIC STROBE PIX TRAIL	MOSAIC PIX TRAIL	STROBE PIX TRAIL	PIX TRAIL	STROBE PIX TRAIL	PIX TRAIL	STROBE PIX TRAIL

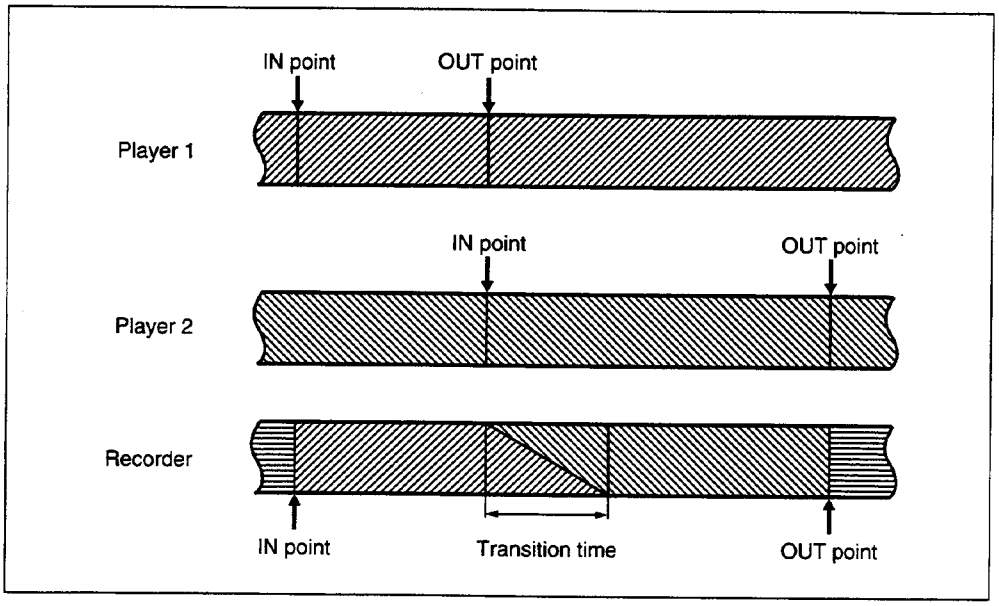
Combined input effects (B-2)

Pressed first / Pressed second	Field[a]						Field or Frame[b]
	STROBE PIX TRAIL	**ZOOM FREEZE**	**STROBE MULTI**	**STROBE MULTI 2**	**MOSAIC PIX TRAIL STROBE**	**MOSAIC PIX TRAIL FREEZE**	**PIX TRAIL FREEZE**
MOSAIC	STROBE PIX TRAIL MOSAIC	FREEZE MOSAIC	STROBE MOSAIC	STROBE MOSAIC	PIX TRAIL STROBE	PIX TRAIL FREEZE	PIX TRAIL FREEZE MOSAIC
MULTI	STROBE MULTI	MULTI	STROBE	STROBE MULTI	STROBE MULTI	MULTI	MULTI
MULTI 2	STROBE MULTI 2	MULTI 2	STROBE MULTI 2	STROBE	STROBE MULTI 2	MULTI 2	MULTI 2
STROBE	PIX TRAIL	ZOOM STROBE	MULTI	MULTI 2	MOSAIC PIX TRAIL	MOSAIC PIX TRAIL STROBE	PIX TRAIL STROBE
ZOOM	STROBE ZOOM	Off	STROBE ZOOM	STROBE ZOOM	STROBE ZOOM	ZOOM	ZOOM
FREEZE	PIX TRAIL FREEZE	ZOOM	MULTI FREEZE	MULTI 2 FREEZE	MOSAIC PIX TRAIL FREEZE	MOSAIC PIX TRAIL	PIX TRAIL
PIX TRAIL	STROBE	PIX TRAIL	STROBE PIX TRAIL	STROBE PIX TRAIL	MOSAIC STROBE	MOSAIC FREEZE	FREEZE

a) The effects are applied to field data.
b) The effects are applied to field data if the FRAME/FIELD button is lit. Otherwise they are applied to frame data.

Setting the Transition Time

This section explains how to set the transition time, or duration, of special effects.



Transition time

Note

You do not need to set a transition time if you have selected cut editing by pressing the CUT EDIT button in the EDIT TYPE section.
When using dissolve or wipe effects, the effect is the same as a cut if the transition time is set to 0.

There are two ways to set the transition time.
- Use the TRANS RATE buttons in the EFFECT TRANSITION section.
- Use the numeric keypad.

Setting video and audio transition times independently

If you have selected split editing (the AUDIO SPLIT button in the EDIT MODE section is lit), you can set independent transition times for video and audio.
- To set the video transition time, press the VIDEO/AUDIO/FADE button in the EFFECT TRANSITION section until only the VIDEO indicator is lit.
- To set the audio transition time, press the VIDEO/AUDIO/FADE button until only the AUDIO indicator is lit.

For more information about split editing, see "Setting Independent Video and Audio IN Points —Split Editing" (page 6-8).

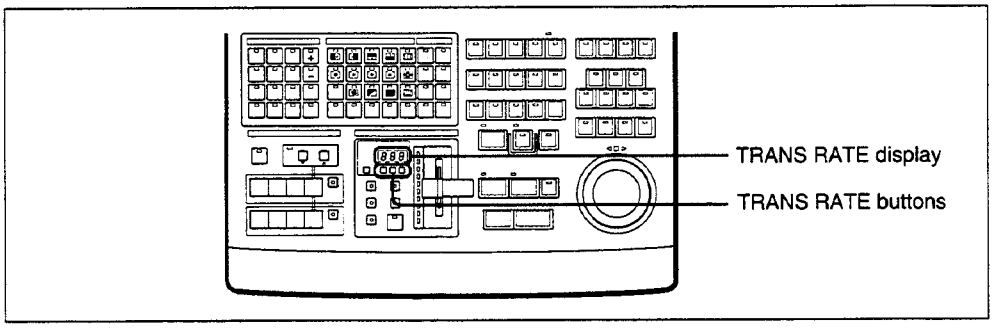
When setting the fade in/fade out transition time

Press the VIDEO/AUDIO/FADE button in the EFFECT TRANSITION section until only the FADE indicator is lit.

For more information about fade in and fade out, see "Editing With Fade In and Fade Out" (page 6-16).

Setting the transition time with the TRANS RATE buttons

The TRANS RATE buttons in the EFFECT TRANSITION section allow you to select any transition time in the range from 0 to 999 frames. The length of one frame is $^1/_{30}$ seconds (FXE-100) or $^1/_{25}$ seconds (FXE-100P).

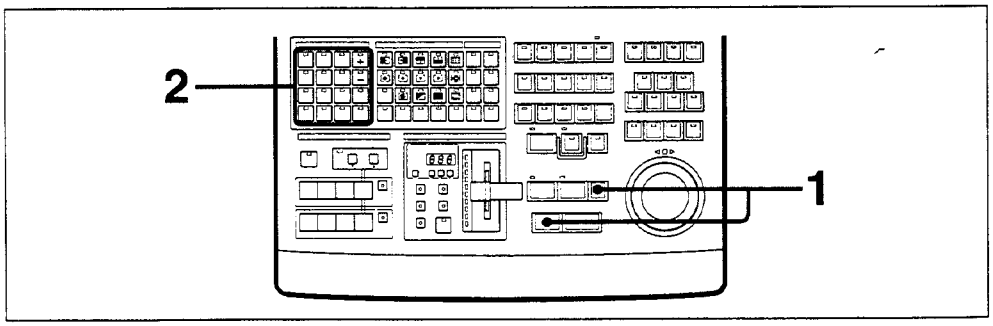


Setting the transition time with the TRANS RATE buttons

- Each time you press a TRANS RATE button, the digit in the display column above the button is incremented by 1. The digit '9' is succeeded by '0'.
- If you press a TRANS RATE button together with the SHIFT button, the display column value is decremented by 1. In this case, the digit '0' is succeeded by '9'.

Setting the transition time with the numeric keypad

You can also enter a transition time with the numeric keypad. Proceed as follows.



Setting the transition time with the numeric keypad

1 Press the SET TRANS (=SHIFT + SET DUR) button in the TIME MARK section.
The unit enters numeric keypad mode, enabling the numeric keys. The number in the TRANS RATE display goes out.

2 After entering the desired number of frames with the numeric keys, press the ENT key.
The transition time is set to the entered value, and the unit exits numeric keypad mode.

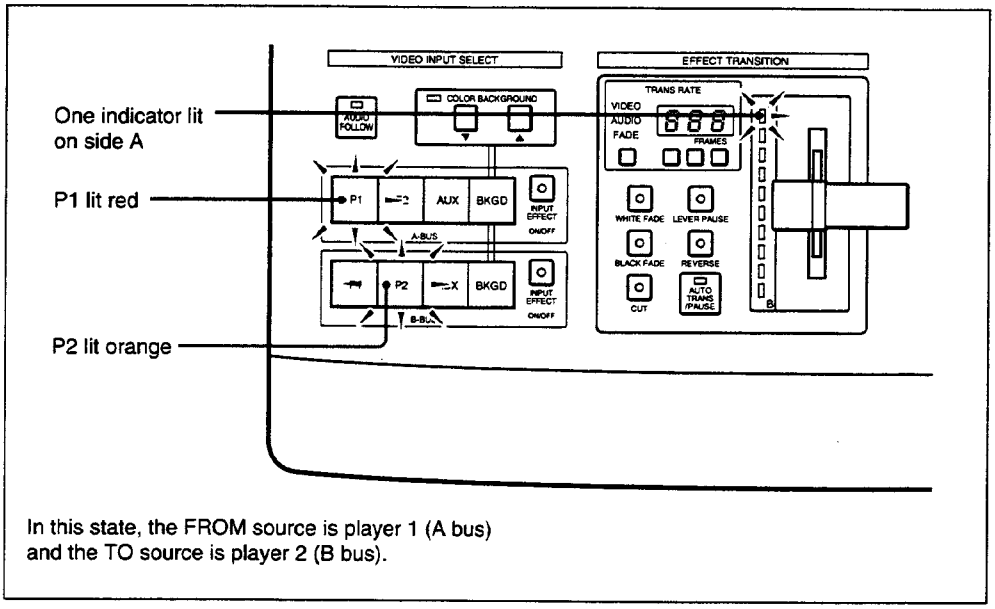
Note

In some cases, the actual transition time of the video on the monitor can be slightly shorter than the entered value, so you may wish to set it to a slightly longer value.

Checking FROM and TO Sources

After making the necessary settings, always make a final check of the video signals of the FROM and TO sources before executing a preview or edit.
Check the transition indicators next to the fader lever (normally only one should be lit). Also check the state of the video input selection buttons or the status display on the main monitor.

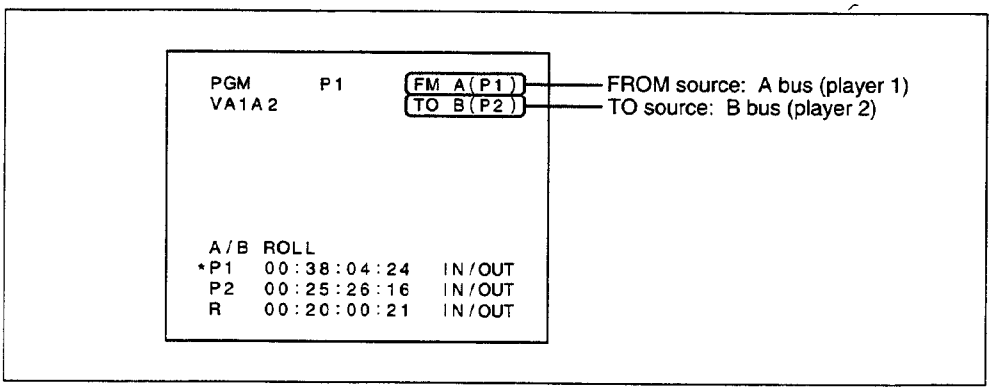
Check the transition indicators and video input selection buttons



In this state, the FROM source is player 1 (A bus) and the TO source is player 2 (B bus).

Checking FROM and TO sources on the control panel

Check the monitor status display



Checking FROM and TO sources on the monitor

To reverse the FROM and TO sources

If the FROM and TO sources are reversed, move the fader lever or press the CUT button in the EFFECT TRANSITION section to switch them.

Note

The fader lever is disabled while the AUTO TRANS/PAUSE button is lit. Before using the fader lever to reverse sources, extinguish the AUTO TRANS/PAUSE button.

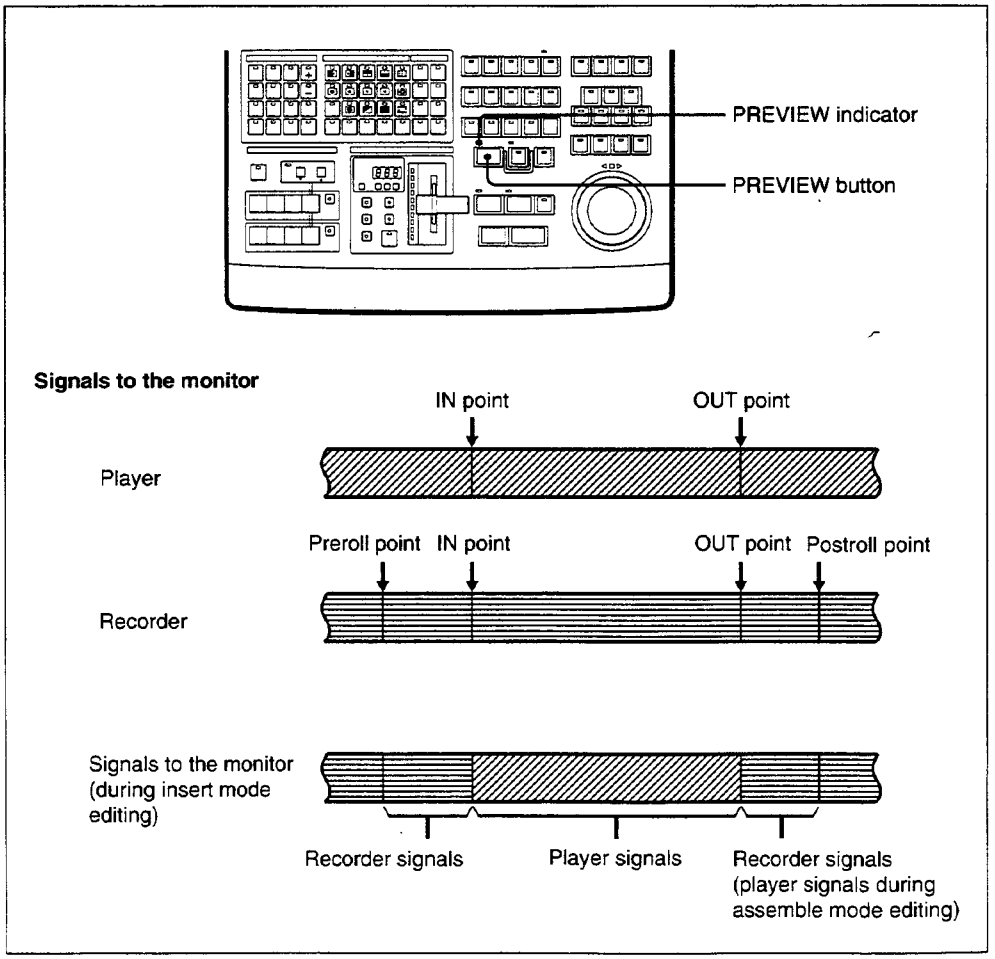
For details, see "Note on the fader lever" (page 4-13).

Preview—The Rehearsal Before Edit Execution

Instead of executing the edit as soon as you finish checking the FROM and TO sources, you can confirm the results of your edit decisions by previewing the edit on a monitor.
In a preview, a monitor connected to the recorder will display the same signals that will be recorded at execution time. You can also view these signals on the main monitor by pressing the SOURCE button in the MONITOR section, turning it on, and then selecting the recorder by pressing the R-VTR button in the SOURCE section.
When you preview the edit, control settings are not registered in the EDL. You can change or correct them as often as necessary.

Carrying out a preview

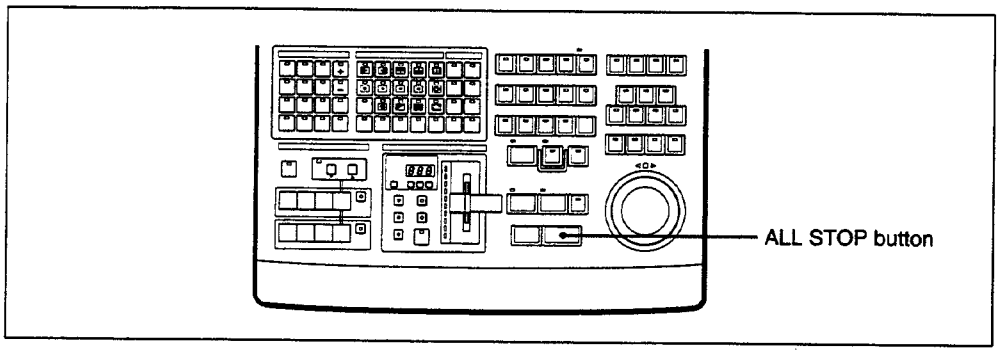
To preview the edit, press the PREVIEW button in the AUTO CONTROL section. The PREVIEW indicator above the button lights, and all of the selected VCRs run from their preroll points to their postroll points.
During the preview the following signals are output to the monitor.



Preview

To halt a preview

Press the ALL STOP button.
The PREVIEW indicator goes out and all VCRs stop.



Halting a preview

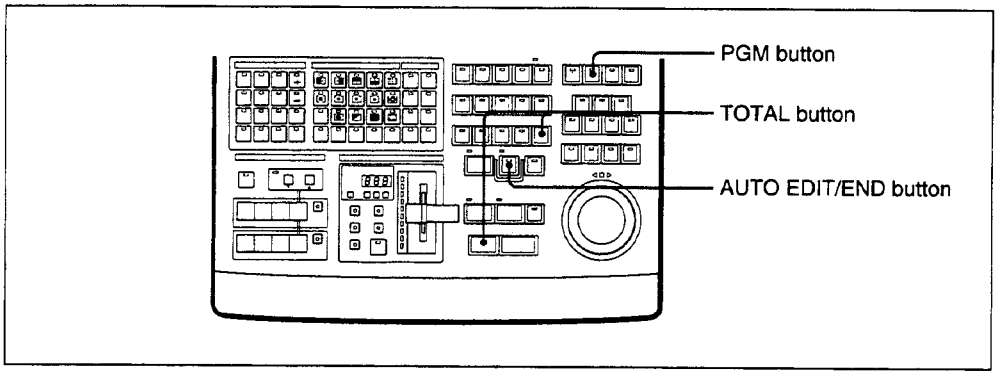
Sync grade display

During a preview, sync grade information is included in the status display.

For details, see "Sync Grade During Previews and Edit Execution" (page 5-65).

Executing the Edit

After checking the FROM and TO sources, execute the edit by pressing the AUTO EDIT/END button in the AUTO CONTROL section.
The AUTO EDIT/END button begins to flash. The specified VCRs are rewound to their preroll points, stop, and then begin to run in the forward direction. When the recorder IN point is reached, the AUTO EDIT/END button lights to indicate that recording has begun.
If you press the PGM button in the MONITOR section, turning it on, you can monitor the program video and audio signals on the main monitor.



Executing the edit

When the edit ends

- The AUTO EDIT/END button goes out, and all VCRs stop.
- The edit data is saved in the EDL. The number in the edit number display of the EDIT PGM section is incremented, and the unit is readied for a new edit.

For more information about the EDL, see Chapter 7.

If edit data has not been set correctly

An error code appears in a time counter display as soon as you press the AUTO EDIT/END button. The edit is not executed. Correct the data and repeat the edit.

If a warning sound is heard after edit execution starts

The unit leaves recording mode without registering the edit in the EDL. Warning sounds are issued in cases such as the following.

- No time code/CTL signals were found on the master tape.
- Connected equipment could not be controlled.
- Time data corresponding to edit settings could not be found on a tape.

To check the total time of edit execution

Press the TOTAL (= SHIFT + CLEAR) button in the AUTO CONTROL section. The total time appears in the RECORDER time counter display, from the recorder IN point having the smallest time code value of all the recorder IN points registered in the EDL to the recorder OUT point last registered in the EDL.

To halt an edit (without registering it in the EDL)

Press the ALL STOP button.
All VCRs are stopped. The edit number is not incremented.

To halt an edit at a desired scene (and register it in the EDL)

Press the AUTO EDIT/END button, turning it off.
The edit number is incremented, and the master tape time code for the point where the button is pressed is registered as the recorder OUT point.

Sync grade display

During edit execution, sync grade information is included in the status display.

For details, see "Sync Grade During Previews and Edit Execution" (page 5-65).

Automatic settings after edit execution

After an edit is executed, some data items for the next edit are set automatically, as follows.

- **Edit mode:** The edit mode selected for the previous edit (and registered in the EDL after execution).
  However, assemble mode is selected after a first edit.
- **Edit type:** The edit type selected for the previous edit.
- **Video switching effect:** The effect selected for the previous edit.
- **Input effect:** Same as previous edit
- **Sources:** As follows, depending on sources selected for previous edit.

Previous edit type (selection button)	Automatically selected source for next edit
Cut (CUT EDIT)	Same source as previous edit
A-roll (A-ROLL)	A-bus source of previous edit
A/B roll (A/B ROLL)	TO source of previous edit
Manual effects (MAN)	
Sync roll (SYNC ROLL)	

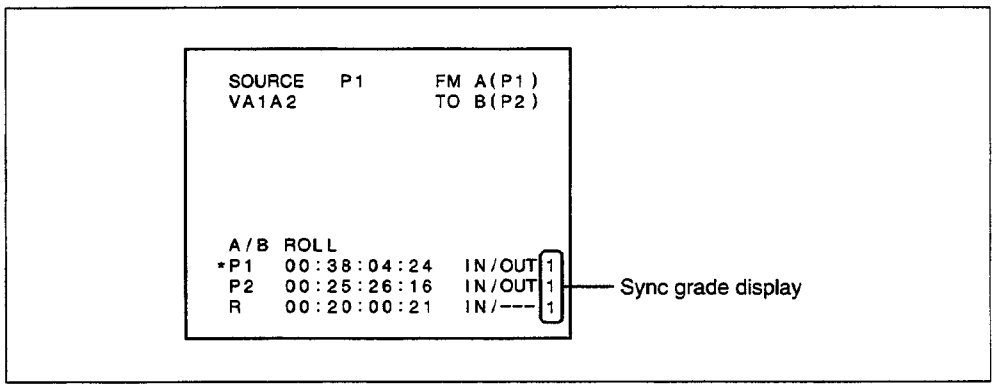
- **Edit number:** Number of previous edit plus 1.
- **Recorder IN point:** Recorder OUT point of previous edit.
- **Player IN point:** Player OUT point of previous edit.

Sync Grade During Previews and Edit Execution

During previews and automatic edits, the main monitor status display contains one-digit codes to indicate the degree of synchronizing precision between VCRs.

Note

If you set setup menu item 303 SYNC GRADE DISPLAY to OFF, this information will not be displayed.



Sync grade display

The meanings of the codes are as follows. The sync grade can be selected under item 301 SYNC GRADE in the setup menu.

Sync grade (status display)	Display code number
ACCURATE	1
+/– 1 FRAME	2
ROUGH	3
PREROLL&PLAY	4

For details, see Chapter 8.

If a VCR cannot be synchronized

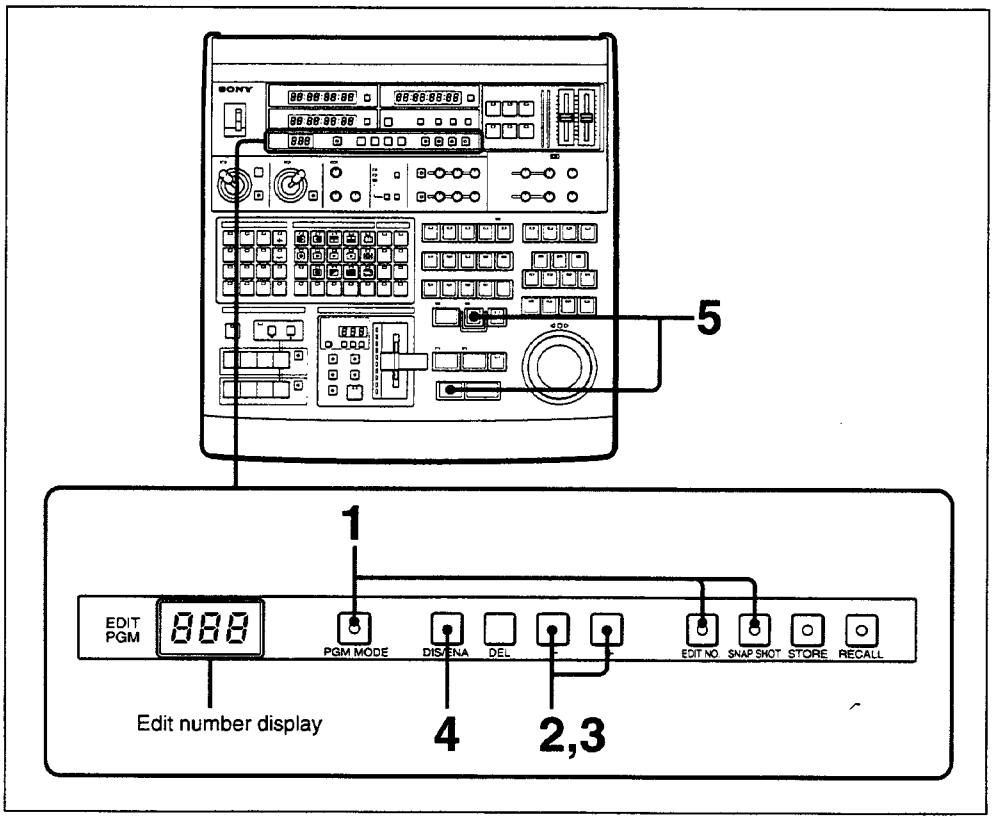
An error code appears in the corresponding time counter display.
In this case, use the setup menu to select a lower sync grade.

Automatic Execution of Multiple Edits —Auto Assembly

Automatic, sequential recording of edits registered in the EDL is called auto assembly. You can designate a given edit as the initial edit, and automatically record edits with higher edit numbers. You can also skip edits which need not be recorded.

For more information about the EDL, see Chapter 7.

To conduct an auto assemble edit, proceed as follows.



Auto assemble edit

1 Press the PGM MODE button in the EDIT PGM section, turning it on.

2 Designate an initial edit by pressing the '+' and '–' buttons until its number appears in the edit number display.
- If you want to record all edits after the initial edit, proceed to step **5**.
- If you want to skip a certain edit, proceed to step **3**.

3 Using the '+' and '–' buttons, display the number of the edit which you want to skip in the edit number display.

4 Press the DIS/ENA button.
The leftmost digit in the edit number display changes to a minus sign (–).[1)]
- To skip more edits, return to step **3**.
- If there are no more edits to skip, press the '+' or '–' button until the desired initial edit number appears..

5 Press the AUTO ASM (=SHIFT + AUTO EDIT/END) button in the AUTO CONTROL section.
Recording begins automatically from the initial edit specified in step **2**.

To halt auto assembly

Press the AUTO EDIT/END or ALL STOP button.
All VCRs stop, and the unit leaves auto assemble mode without exerting any effect on the edit data.

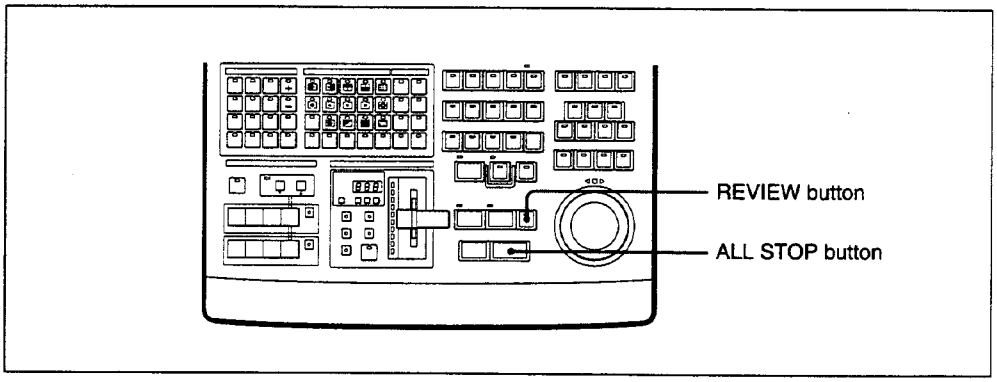
1) The edit remains in the EDL, even if a minus sign is displayed before its edit number. Pressing the DIS/ENA button once more removes the minus sign and cancels the designation.

Reviewing the Edit

After executing the edit, you can conduct a review in order to check the signals which have been recorded on the master tape.
During a review, master tape playback is displayed on the recorder monitor. If you press the SOURCE button in the MONITOR section, turning it on, and select the recorder by pressing the R-VTR button in the SOURCE section, the same signals are displayed on the main monitor.

Conducting a review

To conduct a review, press the REVIEW button in the AUTO CONTROL section, turning it on.
Settings registered in the EDL as a result of edit execution are recalled to the control panel, and the edit is played back from the preroll point to the postroll point.
When the review ends, the recorder is rewound to the OUT point, where it stops.



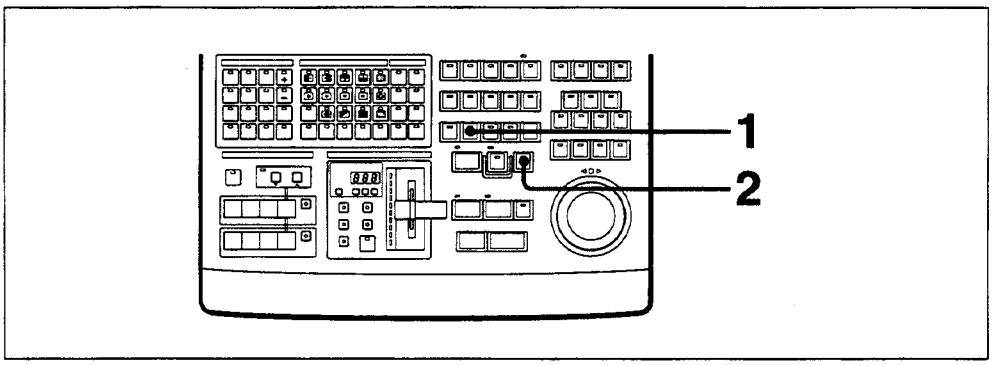
Conducting a review

To stop a review

Press the ALL STOP button.
The REVIEW button goes out, and the recorder stops.

To review near the OUT point only

Instead of reviewing the entire edit, from preroll point to postroll point, you can review only the vicinity of the OUT point.
Proceed as follows.



Reviewing near the OUT point only

1 Press the OUT button in the AUTO CONTROL section, turning it on.

2 Press the REVIEW button.
The most recently registered edit is recalled from the EDL, and the master tape is played back at normal speed near the OUT point only.

To review effect start points

After pressing the REVIEW button to begin the review, press it once more.
The recorder begins fast forward playback, and returns to normal speed at a point slightly before the effect start point only.

Chapter 6
Advanced Editing

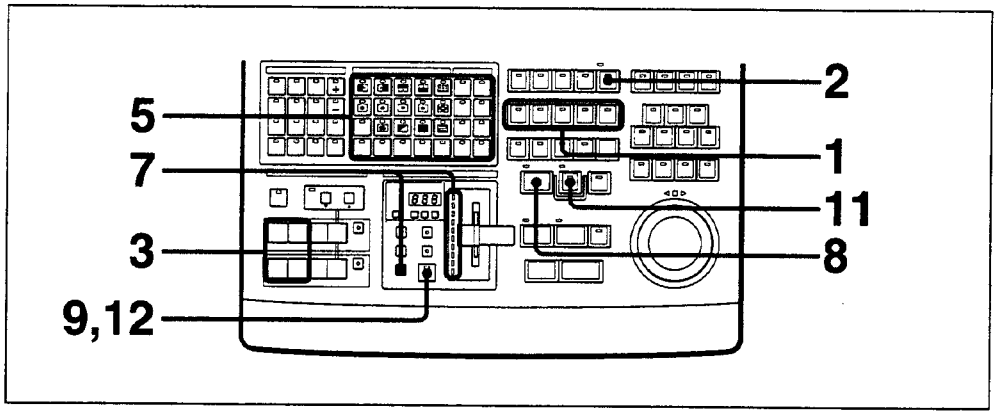
This chapter describes several advanced editing techniques. It assumes that readers are familiar with the techniques covered in the "Basic Editing" section of the handbook supplied with this unit. In order to keep the illustrations simple, steps such as setting edit points and setting transition times are covered briefly. See the page numbers given in parentheses after each step for fuller explanations.

On the Fly Editing With Two Players
—Sync Roll Editing 6-2
Editing With Manual Special Effects 6-4
Auto Transition Effects 6-6
Setting Independent Video and Audio IN Points
—Split Editing 6-8
Editing Variable-Speed Playback—DMC Editing 6-13
Editing With Fade In and Fade Out 6-16
Fade In 6-16
Fade Out 6-18
Using Color Backgrounds 6-20
Slide In and Slide Out Using a Color Background 6-20
Recording Time Code—Time Code Insert 6-22

On the Fly Editing With Two Players—Sync Roll Editing

In normal A/B roll editing, player 1 is started as the A-bus source, and player 2 started as the B-bus source when player 1 nears its OUT point. In another technique, called sync roll editing, both players are started simultaneously, allowing you to switch manually from bus A to bus B and back again when the desired scenes appear. This can be covenient when, for example, you are editing shots of the same event taken by two cameras from different angles.
To apply dissolves and wipes while switching between buses, use the AUTO TRANS/PAUSE button in the EFFECT TRANSITION section. To cut between the buses, use the CUT button.

The following example shows how to use the AUTO TRANS/PAUSE button.



Sync roll editing

1 Select insert or assemble mode.

2 Press the SYNC ROLL button in the EDIT TYPE section, turning it on.

3 In the VIDEO INPUT SELECT section, select source players for bus A and bus B.

4 Set the edit points (*see page 5-13*).

5 Select the transition effect using the buttons in the WIPE PATTERN and MIX/EFFECT sections.

6 Set the effect transition time (*see page 5-58*).

7 Check the FROM and TO sources.
Only one transition indicator should be lit—the topmost indicator on the A side if the transition moves from bus A to bus B, or the lowermost indicator on the B side if it moves in the opposite direction.

8 • To preview the edit while viewing the monitor, press the PREVIEW button and proceed to step **9**.
• To execute the edit without a preview, proceed to step **11**.

9 After passing the edit IN point[1] press the AUTO TRANS/PAUSE button at any scene to begin the effect transition.
You can switch between buses any number of times during the preview.

10 • If you are satisfied with the results of the preview, proceed to step **11**.
• If you are not satisfied, change settings (if necessary) and go back to step **7**.

11 Press the AUTO EDIT/END button to execute the edit.

12 After passing the edit IN point[1], press the AUTO TRANS/PAUSE button to switch buses.
You can switch buses any number of times before reaching the recorder OUT point.
At the recorder OUT point, the edit ends automatically. The edit data for the switches performed is registered in the EDL.

To end a sync roll edit when the recorder OUT point is not set

Press the AUTO EDIT/END or ALL STOP button.
All VCRs stop, and the unit leaves sync roll mode. Depending on the button pressed, time code for the point where the button was pressed may or may not be registered as an OUT point in the EDL.

- If the AUTO EDIT/END button is pressed, an OUT point is registered in the EDL.
- If the ALL STOP button is pressed, an OUT point is not registered in the EDL.

1) Edit IN point: In split editing, either the video IN point or the audio IN point, whichever comes later.

Editing With Manual Special Effects

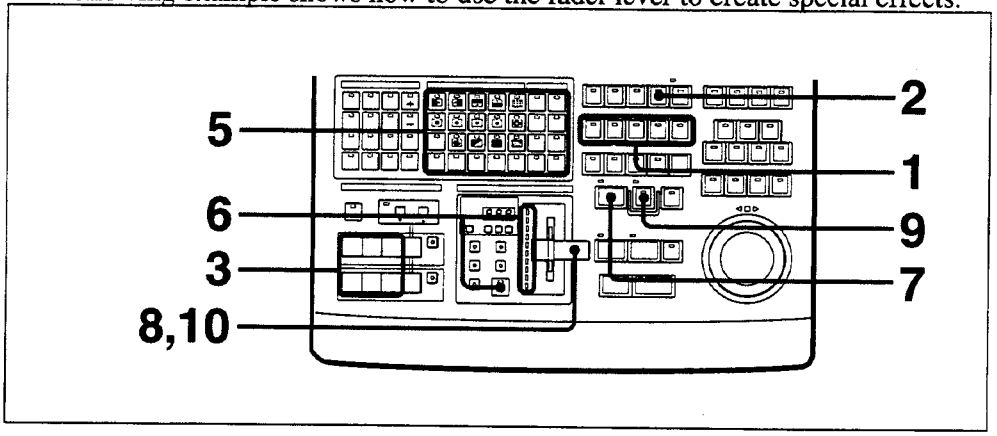
By using the fader lever to carry out dissolves and wipes manually, you can vary the transition speed, stop midway through the transition, and achieve other special effects. You can also use the fader lever, AUTO TRANS/PAUSE button and CUT button to switch between buses any number of times.
Effects created in this way are not registered in the EDL, even if you execute an edit.

Note

Instead of using the fader lever, you can also use the AUTO TRANS/PAUSE button or the CUT button, which switches instantly between A-bus and B-bus signals.

For details on using the AUTO TRANS/PAUSE button, see "Auto Transition Effects" (page 6-6).

The following example shows how to use the fader lever to create special effects.



Using the fader lever for special effects

1 Select insert or assemble mode.

2 Press the MAN button in the EDIT TYPE section, turning it on.

3 In the VIDEO INPUT SELECT section, select source players for bus A and bus B.

4 Set the edit points (*see page 5-13*).

5 Select the transition effect using the buttons in the WIPE PATTERN and MIX/EFFECT sections.

6 Check the FROM and TO sources.
Only one transition indicator should be lit—the topmost indicator on the A side if the transition moves from bus A to bus B, or the lowermost indicator on the B side if it moves in the opposite direction.

7 • To rehearse the transition while viewing playback on the monitor, press the PREVIEW button and proceed to step **8**.
• If a preview is not necessary, proceed to step **9**.

8 A preview starts as soon as you press the PREVIEW button. When it reaches the edit IN point manipulate the fader lever and observe the changes in the picture.
You can switch between the sources any number of times before reaching the recorder OUT point.
• If satisfied with the results of the preview, check the FROM and TO sources and proceed to step **9**.
• To redo the preview, make the necessary adjustments and return to step **6**.

9 Press the AUTO EDIT/END button to execute the edit.

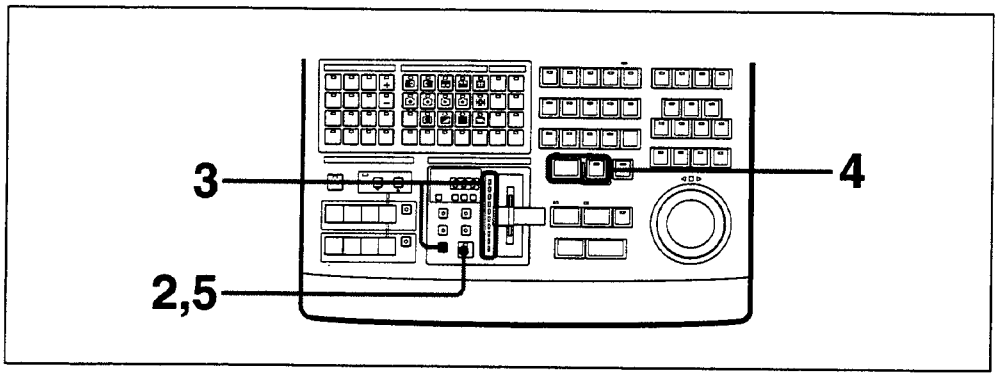
10 Use the fader lever to switch between buses at the desired scenes. You can switch any number of times before reaching the recorder OUT point.

To end a manual effects edit when the recorder OUT point is not set

Press the AUTO EDIT/END or ALL STOP button.
All VCRs stop, and the unit leaves manual effects mode.
• If the AUTO EDIT/END button is pressed, the edit data (except for the effect type and transition time) is registered in the EDL.
• If the ALL STOP button is pressed, nothing is registered in the EDL.

Auto Transition Effects

Instead of using the fader lever, you can also use the AUTO TRANS/PAUSE button for manual transition effects. After carrying out steps **1** to **5** in the procedure on page 6-4, proceed as follows.



Creating effects in auto transition mode

1 Set the effect transition time (*see page 5-58*).

2 If the AUTO TRANS/PAUSE button is not lit, press it, turning it on.

3 Check the FROM and TO sources.
Only one transition indicator should be lit, on the A or B side.

4 Press the PREVIEW or AUTO EDIT/END button to put the unit into preview or edit execution mode.

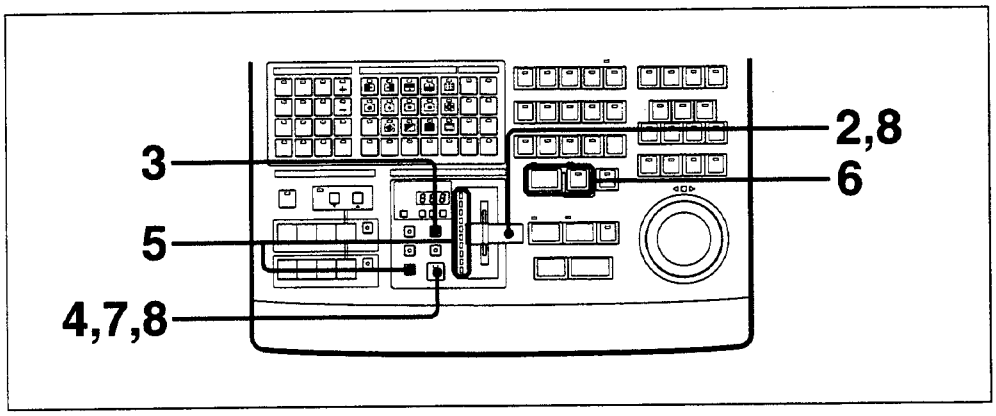
5 After passing the edit IN point, press the lit AUTO TRANS/PAUSE button. The auto transition begins, switching from one bus to the other. You can switch between buses any number of times before reaching the recorder OUT point.

To suspend an auto transition

After starting the transition by pressing the AUTO TRANS/PAUSE button, press it again at the desired position. The button changes from lit to flashing.
To resume the transition, press the AUTO TRANS/PAUSE button once more. The button changes from flashing to lit.

To stop an auto transition automatically at the desired position

By manipulating the fader lever, you can decide the position where you want to halt an auto transition. After carrying out steps **1** to **5** on page 6-4, proceed as follows.



Stopping an auto transition automatically at the desired position

1 Set the effect transition time (*see page 5-58*).

2 Move the fader lever to the position at which you wish to stop.

3 Press the LEVER PAUSE button, turning it on.

4 If the AUTO TRANS/PAUSE button is not lit, press it, turning it on.

5 Check the FROM and TO sources.
Only one transition indicator should be lit, on the A or B side.

6 Press the PREVIEW or AUTO EDIT/END button to put the unit into preview or edit execution mode.

7 After passing the edit IN point, press the lit AUTO TRANS/PAUSE button.
The auto transition begins, and stops automatically at the fader lever position.
The AUTO TRANS/PAUSE button starts flashing.

8 To resume the transition, press the AUTO TRANS/PAUSE button again or move the fader lever.
If you move the fader lever, the unit leaves auto transition mode.

Setting Independent Video and Audio IN Points—Split Editing

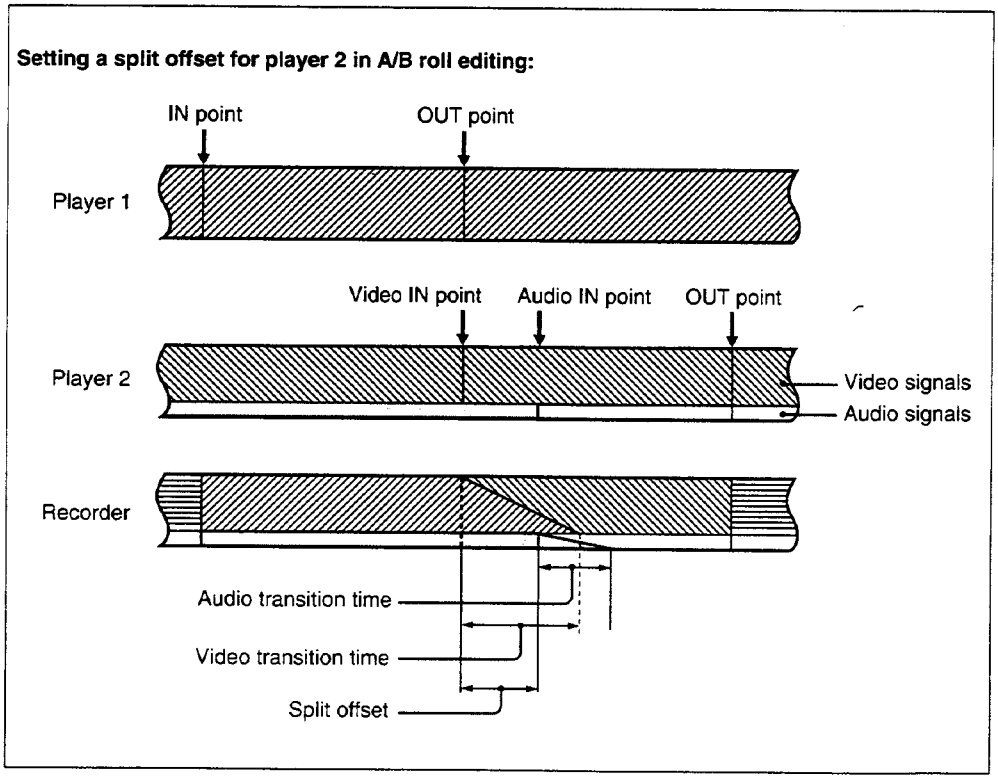
Editing with independent video and audio IN points is called split editing. You can set split offsets separately for all the connected VCRs (player 1, player 2, and recorder).

The following restrictions apply in split editing.

- You must select insert mode as the edit mode to perform split editing. Moreover, it is not possible to set different split offsets for audio channels 1 and 2. The split offset is always the same for channel 1 and channel 2.
- The maximum split offset between the video IN point and the audio IN point is:
  59 seconds and 29 frames (FXE-100) or
  59 seconds and 24 frames (FXE-100P).
- Independent OUT points cannot be set for audio and video.
- If you set split offsets for the players and the recorder, the recorder split offset takes priority.

Relationship between transition times and split offset

In split editing, you can set separate transition times for audio and video.
In this case, the relationship between the transition times and the split offset is as shown below.

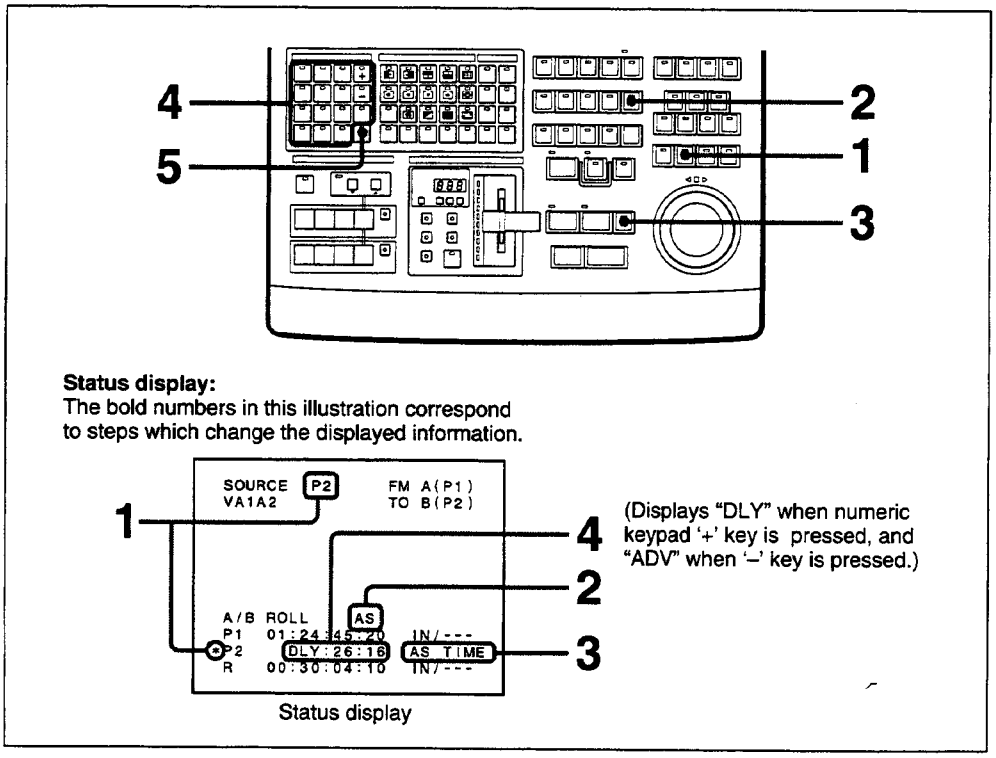


Relationship between transition times and split offset

Setting the split offset

The audio IN point is calculated automatically, using the video IN point and the split offset.
For example, the procedure below shows how to set a split offset for player 2 when the following settings have been made.

- **Insert edit channels:** Video, audio 1, audio 2
- **Edit type:** A/B roll



Splitting the video and audio IN points for player 2

1 In the SOURCE section, select the VCR for which you want to split the audio and video IN points (in this example, player 2) .

2 Press the AUDIO SPLIT button in the EDIT MODE section.
The button begins to flash and the unit enters split edit mode.

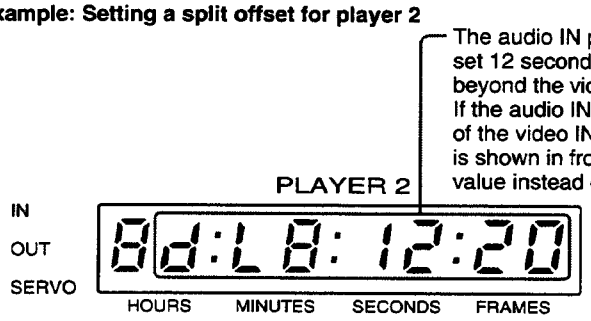
3 Press the SET DUR button in the TIME MARK section.
The button begins to flash and the numeric keypad is enabled.

4 Enter the split offset (seconds:frames) using the numeric keypad.
Press the '+' key to set the audio IN point beyond the video IN point, and the '–' key to set it in front of the video IN point. You can enter up to 4 digits.
If the most significant digits are '0', they do not need to be entered again.

(Continued)

5 Press the ENT key in the numeric keypad.
The value entered in step **4** is confirmed as the split offset, and the unit leaves numeric keypad mode.
The split offset is shown in the appropriate time counter display, as follows.

Example: Setting a split offset for player 2


The audio IN point has been set 12 seconds and 20 frames beyond the video IN point.
If the audio IN point has been set in front of the video IN point, "Ad" (advance) is shown in front of the offset value instead of "dL" (delay).
PLAYER 2
IN
OUT
SERVO
HOURS
MINUTES
SECONDS
FRAMES

Time counter display

To display the split offset

You can display the split offset at any time by selecting the VCR in the SOURCE section, and then pressing the SPLIT (=SHIFT + AUDIO SPLIT) button in the EDIT MODE section. The split offset is displayed in the main monitor's status display, and in the time counter display of the selected VCR.

To change the split offset

To change the split offset, put the unit into split mode, press the SET DUR button in the TIME MARK section and enter the new offset with the keys in the numeric keypad. In this case, the '+' and '– ' keys are used to specify "DLY" and "ADV", respectively. They do not increment or decrement the numeric value.

To cancel a split offset

Display the split offset, then press the CLEAR button in the AUTO CONTROL section.

To set the video IN point while the AUDIO SPLIT button is flashing

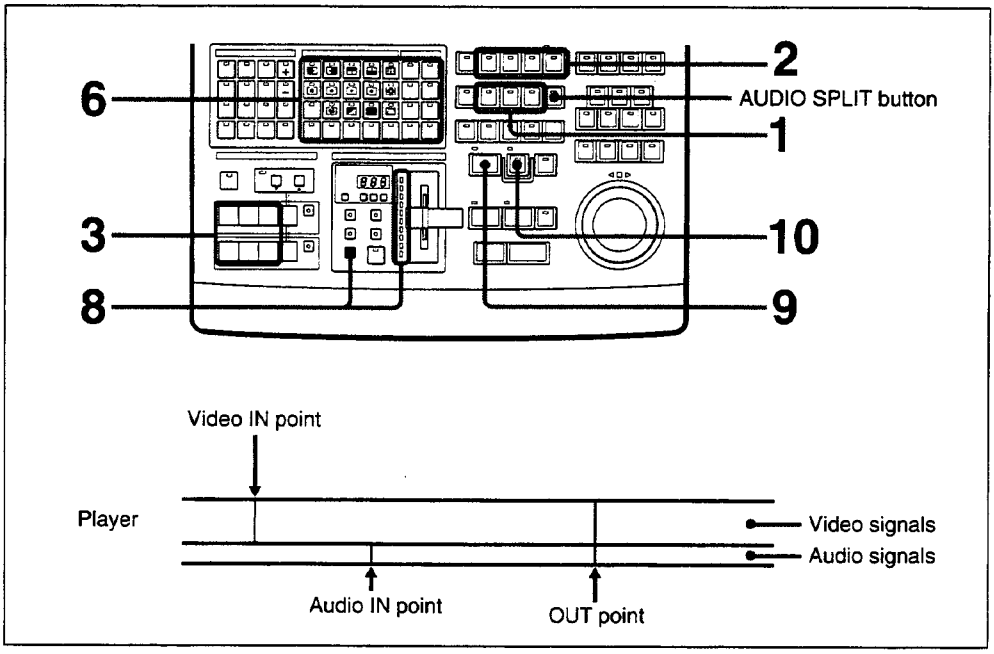
You can set video edit points in the normal way, by pressing the MARK IN and MARK OUT buttons (but not the SET DUR button) in the TIME MARK section.

To exit split edit mode

Press the flashing AUDIO SPLIT button, turning it off.

Executing a split edit

The following example shows how to execute a split edit using player signals on either the A bus or B bus.



Executing a split edit

1 Select insert mode in the EDIT MODE section by pressing insert buttons (V, A1, A2) for the desired channels, turning them on. If a button is flashing, press it twice.

2 Select the edit type in the EDIT TYPE section.

3 In the VIDEO INPUT SELECT section, select the source.

4 Set the edit points (*see page 5-13*).

5 Set the split offset between the audio IN point and the video IN point for the selected player, on either the A bus or the B bus.
For details, see "Setting the split offset" (page 6-9).

6 Select the transition effect using the buttons in the WIPE PATTERN and MIX/EFFECT sections.

7 Set the effect transition time (*see page 5-58*).

8 Check the FROM and TO sources.

9 Preview the edit and change the settings as necessary.
When you press the PREVIEW button, the AUDIO SPLIT button stops flashing and lights.

(Continued)

10 Execute the edit.

The AUDIO SPLIT button stops flashing and lights when you press the AUTO EDIT/END button, and goes out when the edit ends.

Note

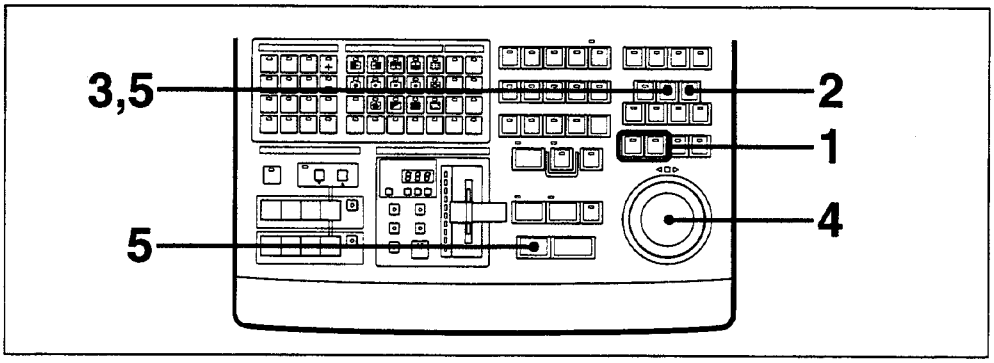
When a split edit is executed, the split offset is saved in EDL memory as part of the information relating to that edit. However, it is not carried over to new edits.

Editing Variable-Speed Playback—DMC Editing

If your player VCR supports Dynamic Tracking (DT) playback, you can edit noiseless, variable-speed video playback. This kind of editing is called Dynamic Motion Control (DMC). In DMC editing, it is necessary to set the initial playback speed, or speed of the player at the point where it crosses the IN point.

Setting the initial speed for DT playback

Proceed as follows to set the initial speed for DT playback.



Setting the initial speed for DT playback

1 Select the DT player using the buttons in the SOURCE section.

2 Press the DMC button in the MANUAL CONTROL section, turning it on.
The specified player enters DMC mode.

3 Press the SPEED button in the MANUAL CONTROL section.
The value '+100' is displayed in the status display of the main monitor and the value '100' in the time counter display. (These values represent normal speed of DT playback.)
If an initial speed of DT playback has already been set, its value will be displayed instead of '+100' and '100'.

4 Rotate the search dial to control the playback speed. Stop rotating the dial when playback reaches the desired speed.
A DT playback speed corresponding to the current dial position is displayed.

Note

This unit can control DT playback at speeds ranging from –1 to +3 times normal speed. However, the actual speeds produced may vary, depending on the particular VCR.

5 Press the MK-SPD (=SHIFT + SPEED) button in the MANUAL CONTROL section.
The speed of DT playback at the time when you pressed the button is stored in the unit's memory.

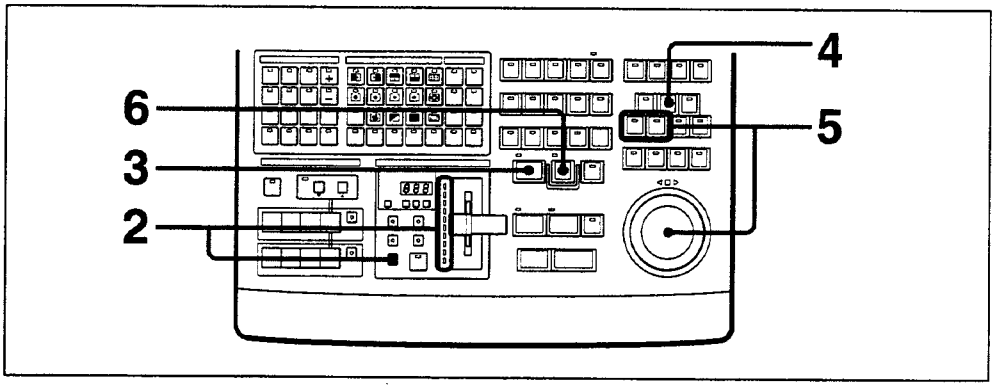
To cancel DMC mode

Press the lit DMC button, turning it off.

Editing Variable-Speed Playback—DMC Editing

Performing a DMC edit

To perform a DMC edit, first initialize the DT playback speed, then proceed as follows.
After a preview or edit passes the IN point, you can control the DT playback speed manually.



DMC editing

1 Follow the standard procedures to select the edit mode and so on.

2 Check the FROM and TO sources.

3 If you want to preview the edit first, press the PREVIEW button.
The button lights and a preview begins. When a player programmed for DT playback reaches the IN point, the DMC button begins flashing, and DT playback begins at the specified initial speed.
If you also want to control the playback speed during the preview, proceed to step **4**.
If you do not want to control the playback speed, wait for the preview to finish and then proceed to step **6**.

4 To make DT playback speeds be displayed, press the SPEED button in the MANUAL CONTROL section.
The set initial speed of DT playback is displayed in the status display of the main monitor and the time counter display.

5 To control the playback speed manually, rotate the search dial.
Alternatively, you can use the PLAY and STILL buttons in the MANUAL CONTROL section.
The current DT playback speed is displayed.

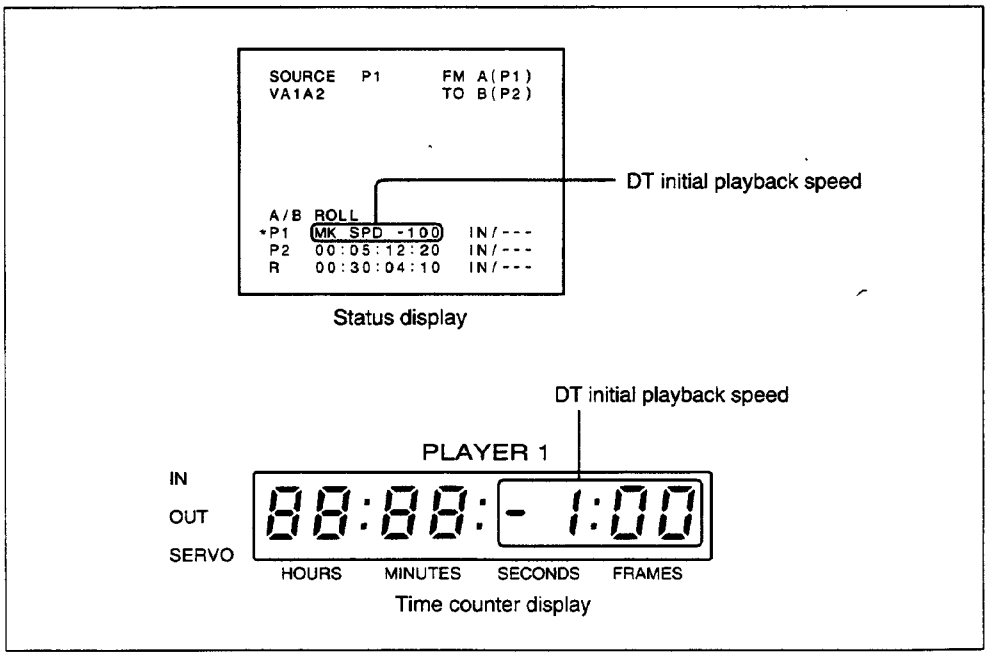
6 Press the AUTO EDIT/END button to execute the edit.
Just as during a preview, you can use the search dial and PLAY button to control playback speed beyond the IN point, and press the STILL button for still playback.
Note that manually controlled playback speeds are not saved in the EDL, although the DT initial speed is saved.

To change the initial speed during a preview

After selecting the desired speed in step **5**, press the SPEED button to display the current DT playback speed and then press the MK-SPD (=SHIFT + SPEED) button.

To check the initial DT playback speed

Select the player with the appropriate button in the SOURCE section, then press the SPEED button in the MANUAL CONTROL section, turning it on. The initial DT playback speed is displayed in the main monitor's status display and in the appropriate time counter display as a percentage of normal speed. For example, if the initial speed for player 1 on bus A has been set to –1 times normal speed, the following information is displayed.



Checking DT initial playback speed

Automatic calculation of edit points when a DT initial speed is set

Even if you have set an initial DT playback speed, the unit calculates edit points and durations in the same way as in normal editing, regardless of the initial speed.

For details about automatic calculation of edit points and durations, see "Relation Between IN/OUT Points and Duration" (page 5-17).

Editing With Fade In and Fade Out

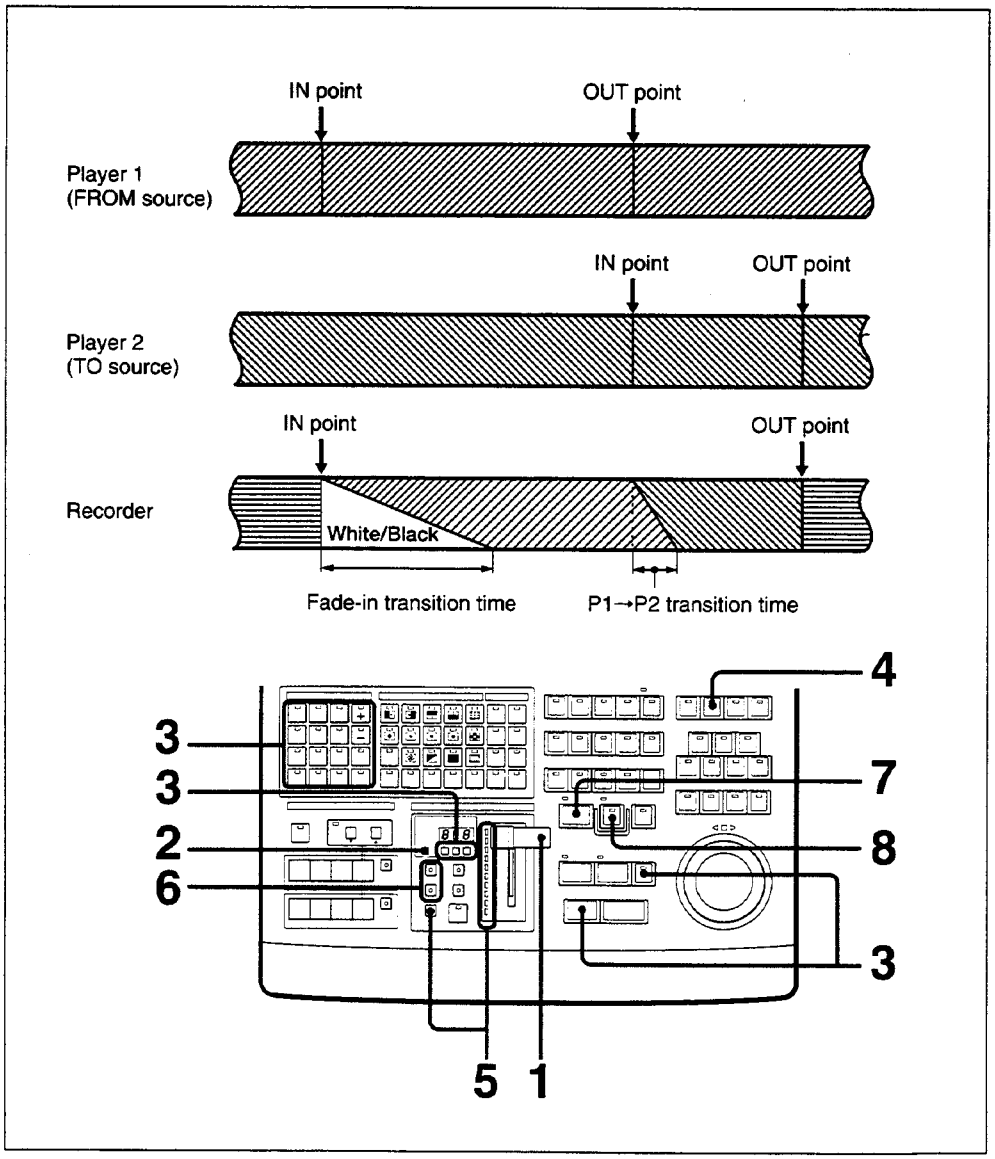
You can fade player video in to or out from a black or white background. The black or white background is output from the TO source bus.

Notes

- The fade-in and fade-out effects cannot be used when any of the key selection buttons (LUMINA KEY, CHROMA KEY, P IN P) are lit.
- The fader lever cannot be used for fade-in or fade-out effects.
- Fade-in from the edit IN point cannot be used during sync roll editing.
- If you perform a fade-in during A-roll editing, the black or white background is output on bus B, overriding the A-roll effect.

Fade In

Proceed as follows to use the fade-in effect in normal A/B roll editing. This example assumes that player 1 has been selected as the A-bus source, and player 2 as the B-bus source.



Fade-in A/B roll editing

1 Push the fader lever all the way up to the A side, so that only the topmost transition indicator is lit.

2 Press the VIDEO/AUDIO/FADE button in the EFFECT TRANSITION section, lighting the FADE indicator above the button.
The fade transition time may now be set.

3 Set the fade transition time using the TRANS RATE buttons in the EFFECT TRANSITION section, or the SET TRANS (=SHIFT + SET DUR) in the TIME MARK section button *(see page 5-58)*.

Note

The fade transition time must be shorter than the duration for player 1. If it is not shorter, an error code is displayed in the appropriate time counter display when you press the PREVIEW or AUTO EDIT/END button, and the preview or edit is not executed. The edit is executed if the fade transition time and player 1 duration are equal.

4 Press the PGM button in the MONITOR section.
The main monitor displays still playback from player 1.

5 Check the FROM and TO sources.

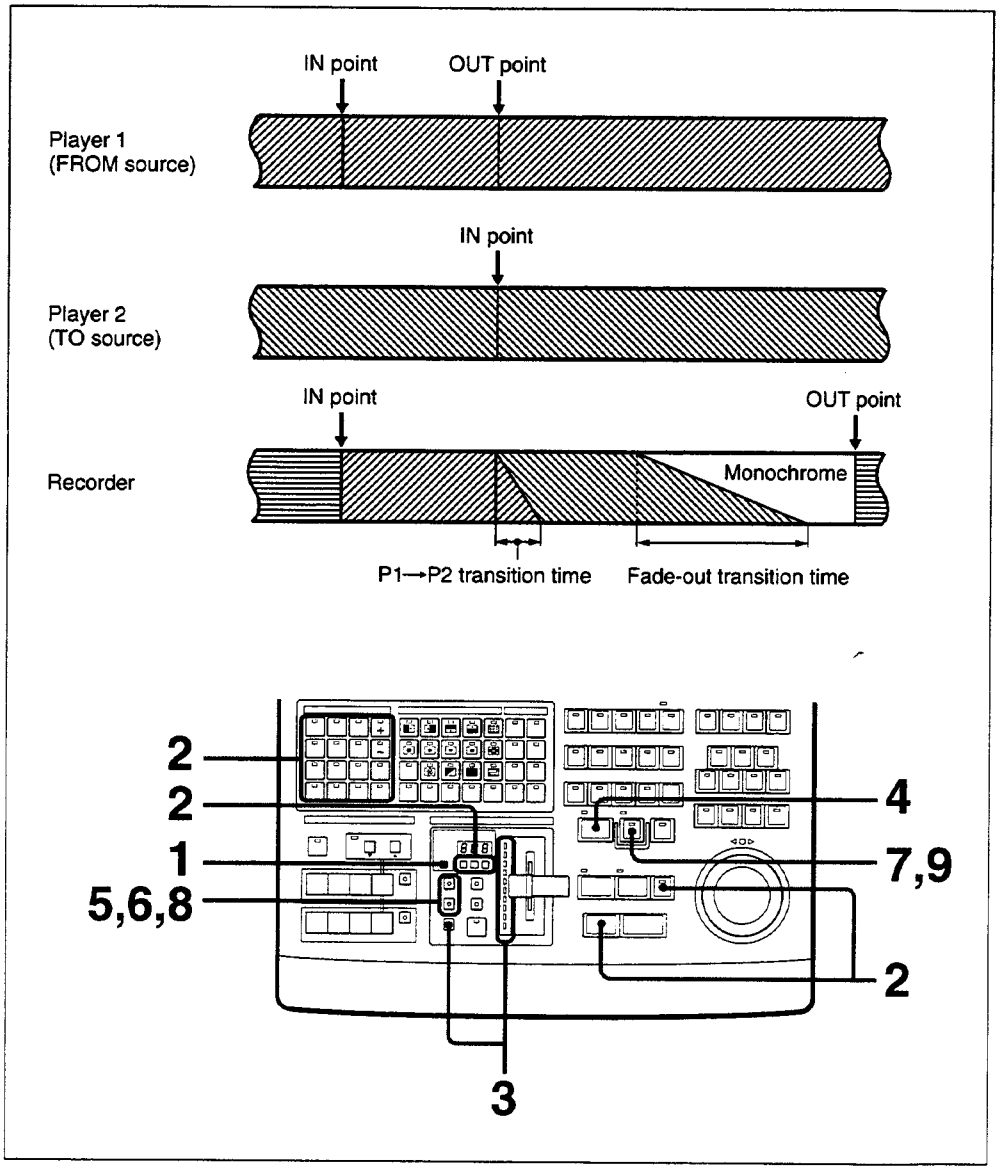
6 To fade the playback from player 1 in from a white background, press the WHITE FADE button in the EFFECT TRANSITION section. Press the BLACK FADE button to fade in from a black background.
The BKGD button in the TO source row of the VIDEO INPUT SELECT section (in this example the B-BUS row) lights automatically, and the picture changes gradually to a white or black background, using the same transition time which was set in step **3**. The lit WHITE FADE or BLACK FADE button begins to flash.

7 Preview the edit and change the settings as necessary.
The WHITE FADE or BLACK FADE button flashes during the preview and goes out at the end of the transition (when player 1 video has completely replaced the background).

8 Execute the edit.
During the edit, the flashing WHITE FADE or BLACK FADE button goes out at the end of the fade-in transition.

Fade Out

You can perform a fade out in A/B roll editing at any point after the transition from the FROM source to the TO source. The following example shows how to fade the TO source playback out to a black or white background after an A/B roll transition. Make the normal edit point settings for an A/B roll edit (but do not set the OUT point for the TO source), then proceed as follows. This example assumes that player 1 has been selected as the A-bus source, and player 2 as the B-bus source.



Fade-out in A/B roll editing

1 Press the VIDEO/AUDIO/FADE button in the EFFECT TRANSITION section, lighting the FADE indicator above the button.
The fade transition time may now be set.

2 Set the fade transition time using the TRANS RATE buttons in the EFFECT TRANSITION section, or the SET TRANS (=SHIFT + SET DUR) button in the TIME MARK section *(see page 5-58)*.

3 Check the FROM and TO sources.

4 • If you want to preview the edit, press the PREVIEW button and proceed to step **5**.
• To execute the edit without a preview, proceed to step **7**.

5 When the preview starts, wait until the end of the transition to the TO source, then press the WHITE FADE or BLACK FADE button in the EFFECT TRANSITION section.
At the end of the fade-out transition (when player 2 video has been completely replaced by the background), the lit WHITE FADE or BLACK FADE button starts flashing.
• If satisfied with the preview, proceed to step **7**.
• If not satisfied, make the necessary changes and redo the preview.

6 Press the flashing WHITE FADE or BLACK FADE button, turning it off.
The unit leaves fade mode.

7 Press the AUTO EDIT/END button to execute the edit.

8 After the A/B roll transition, when player 2 video has completely replaced player 1 video, press the WHITE FADE or BLACK FADE button at the desired scene, turning it on.
The BKGD button in the B-Bus row of the VIDEO INPUT SELECT section lights automatically.
After the fade-out transition (when the white or black background has completely replaced player 2 playback), the lit WHITE FADE or BLACK FADE button starts flashing.

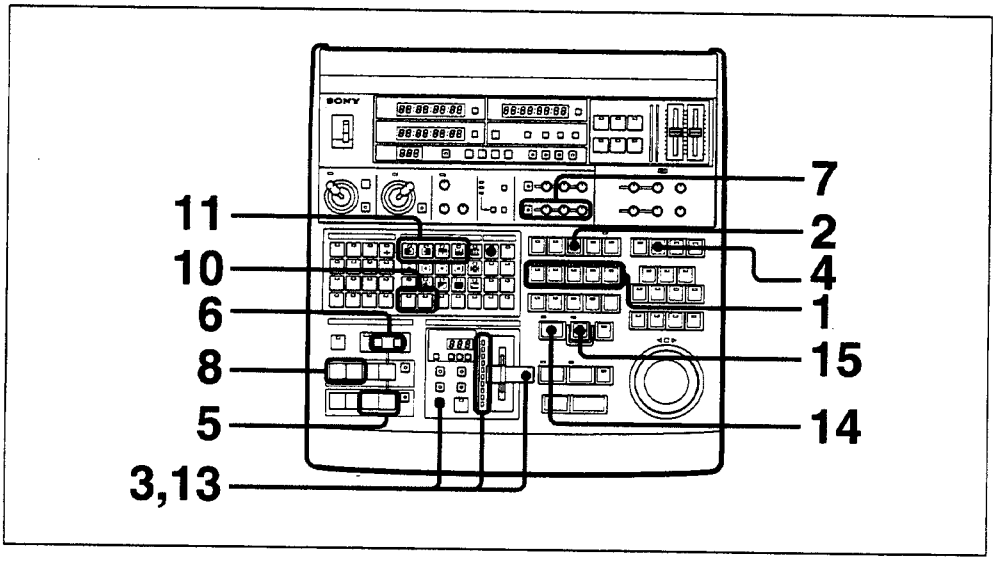
9 Press the AUTO EDIT/END button to end the edit.

Using Color Backgrounds

The unit's internal color background generator can be used to generate effective backgrounds for use with mixes, wipes and so on.
This section shows how to slide player video into a color background, and how to switch to a color background by sliding player video out.

Slide In and Slide Out Using a Color Background

The following example shows how to slide in or slide out video from a source player using a selected background color.



Slide in and slide out using a color background

1 Select the edit mode in the EDIT MODE section.

2 Press the A/B ROLL button in the EDIT TYPE section, turning it on.

3 Select the B bus by pressing the CUT button in the EFFECT TRANSITION section, or by pulling the fader lever all the way down to the B side. Check to be sure that only the lowermost transition indicator on the B side is lit.

4 Press the PGM button in the MONITOR section, turning it on.

5 In the VIDEO INPUT SELECT section, press the AUX and BKGD buttons in the B-BUS row, turning them on, to select the built-in color background generator as the source for bus B.
The COLOR BACKGROUND indicator lights, and a background color is output to the monitor.

6 Use the background color selection buttons (▼ and ▲) to select one of the 25 background colors.

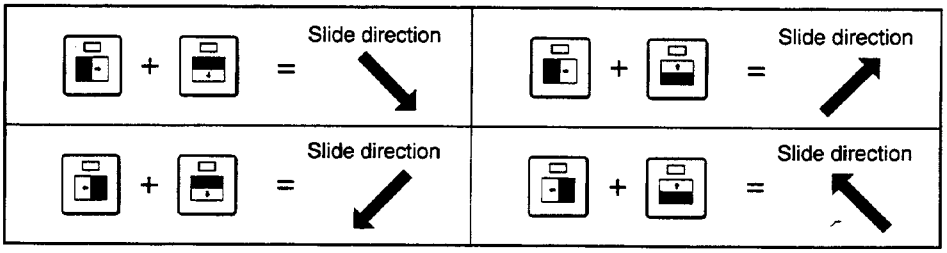
7 Adjust the hue, luminance and chrominance of the background color by pressing the B-BUS button in the VIDEO LEVEL & HUE section and then rotating the three knobs.

8 Press the P1 or P2 button in the A-BUS row of the VIDEO INPUT SELECT section, turning it on, to select player 1 or player 2 as the source for bus A.

9 Set the edit points (*see page 5-13*).
For bus B, enter a duration by pressing the AUX button in the SOURCE section, turning it on, and then pressing the SET DUR button and using the numeric keypad.

10 Press the SLIDE IN button in the WIPE PATTERN section to select a slide in effect. Press the SLIDE OUT button to select slide out.

11 Use the horizontal and vertical wipe buttons to set the direction.
To slide in at a slant, press one each of the horizontal and vertical wipe buttons, turning them on.



12 Set the slide-in or slide-out transition time (*see page 5-58*).

13 Check the FROM and TO sources.
- For a slide in, only the lowermost transition indicator on side B should be lit.
- For a slide out, only the topmost transition indicatoron side A should be lit.

If other indicators are lit, press the CUT button in the EFFECT TRANSITION section to switch buses.

14 Preview the edit and change the settings as necessary.

15 Execute the edit.

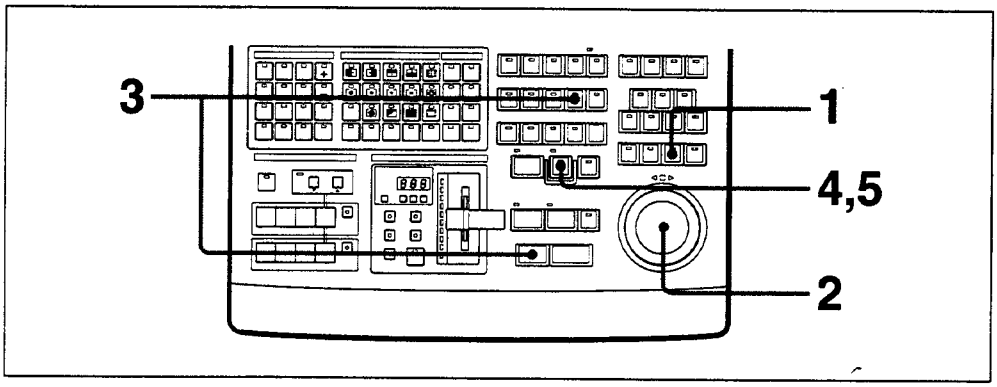
Recording Time Code—Time Code Insert

To perform time code editing [1] with a tape containing recorded video or audio but no recorded time code, it is necessary to record consecutive time code on the tape in advance, at least for the segment you wish to edit. Adding time code to a pre-recorded tape in this way is called time code insert.
Even if time code is already recorded on the tape, you may want to change the time code values. This is also done by executing a time code insert with the desired preset value. If you do not set a preset value, time code will be inserted so as to form a continuous sequence with the time code already recorded on the tape.

Notes

- Time code cannot be recorded correctly on a tape or a section of tape on which nothing at all has been recorded.
- When inserting time code into an already recorded tape, the tape should normally be loaded into the recorder VCR. This prevents misoperations such as selecting a player VCR containing a tape with time code that should not be overwritten.

To perform a time code insert, proceed as follows.



Time code insert

1 Insert the tape onto which you want to record time codes into a VCR (normally the recorder), and select that VCR in the SOURCE section.

2 Using the search dial, search for the desired scene (the time code insert IN point).
If time codes are recorded before the IN point, and you want to insert time codes so as to form a continuous sequence, rewind the tape to the section containing the already recorded time codes.

Note

Before recording time code, check to be sure that signals have already been recorded on the tape, at least between the preroll point and the IN point.

1) Time code editing: Editing which uses time code to determine edit point locations, as opposed to editing which uses CTL codes.

3 Press the TC (=SHIFT + A2) button in the EDIT MODE section.

4 Press the AUTO EDIT/END button in the AUTO CONTROL section.
The button begins to flash, and the tape is rewound from the IN point to the preroll point. It stops there, and begins to run in the forward direction. Time code recording begins when the tape nears the IN point. When the IN point is passed, the AUTO EDIT/END button stops flashing and lights.
During time code recording, the monitor displays the recorded video.

5 Press the AUTO EDIT/END button at the point where you wish to end the time code recording.

To preset the time code for an IN point

Preset the time code for an IN point just as you would set an edit point, by pressing the MARK IN button in the TIME MARK section, or by pressing the SET IN (=SHIFT + MARK IN) button and entering the time code value with the numeric keypad.

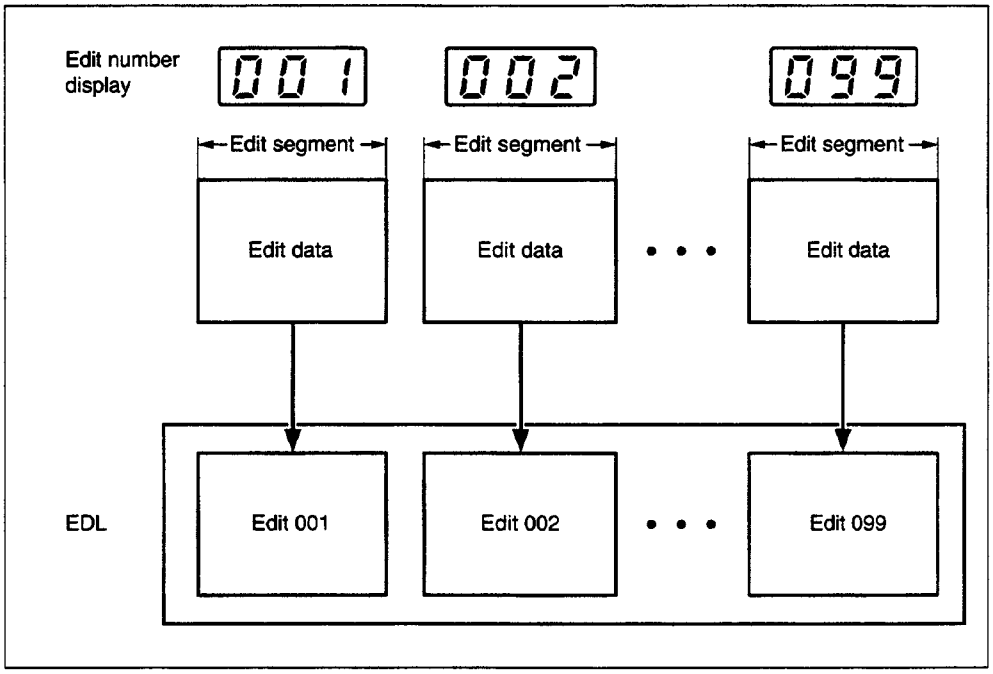
Chapter 7
Managing Edit Data

This chapter describes the edit decision list (EDL). It shows how to save edits, how to recall them, how to adjust them, and how to transfer them to and from external equipment.

About the EDL **7-2**
About Snapshots 7-4
Using the EDL **7-5**
Registering an Edit in the EDL 7-6
Recalling Edits From the EDL 7-7
Revising and Deleting Edits 7-8
Using Registered Edits in Automatic Editing 7-10
Transferring Edits To and From External Equipment 7-11
EDL Output Format 7-14

About the EDL

The edit decision list (EDL) is stored in the unit's internal memory. As shown below, it contains a list of edits numbered from 001 to 099. Each edit contains all of the settings needed to carry out an automatic edit.
Edits are registered in the EDL automatically every time you execute an edit. You can recall a registered edit whenever you need it again, revise the recalled edit and save the revised version. The current edit is displayed as a three-digit number in the edit number display, located in the EDIT PGM section of the control panel.



Structure of the EDL

About new edits

When you register an edit in the EDL, the number shown in the edit number display is incremented and the unit is readied for a new edit. When displaying a new edit number, "n" is shown in the leftmost column of the edit number display.

Edit number display format

The edit number is displayed in the following format.

EDIT PGM 003	Registered edits are displayed as three-digit numbers.
EDIT PGM n04	New edits, and edits deleted from the EDL, are displayed as two-digit numbers preceded by "n" (new). *See page 7-9 for more information about deleted edits.*
EDIT PGM -02	While the PGM MODE button is lit, skipped edits are displayed as two-digit numbers preceded by a minus sign (–). *See page 7-5 for more information about skipped edits.*

When the EDL becomes full

When n99 is displayed in the edit number display, it means that you have already registered 98 edits and that the EDL is almost full. After you register edit n99, the number in the display changes as follows, depending upon the the setting of item 309 OVERFLOWED EDIT in the setup menu.

If item 309 is set to INHIBITED: The number changes from n99 to 099. In this state, the AUTO EDIT/END button is disabled and no new edits can be registered. If you do press the AUTO EDIT/END button, an error code is displayed in the time counter display.
Setup menu item 309 is factory preset to INHIBITED.

If item 309 is set to OVERWRITE: The number changes to 001. In this state, when you press the AUTO EDIT/END button, the edit previously registered under number 001 is overwritten and the display changes to 002.

To delete all registered edits, set item 309 OVERFLOWED EDIT in the setup menu to ALL CLEAN UP.

For details, see Chapter 8.

Edit settings stored in the EDL

The following edit settings are stored in the EDL.

- The edit type
- The edit mode
- The video sources (as selected with the buttons in the A-BUS and B-BUS rows of the VIDEO INPUT SELECT section)
- The edit points (IN and OUT points for each VCR)
- The split offset (when split editing is selected)
- The wipe pattern
- The mix type
- The key type
- The transition time
- The FROM source and TO source

For details regarding the EDL output format, see page 7-14.

About Snapshots

When the unit saves an edit, it can also save the settings of the controls in the AUDIO INPUT SELECT section and the video switcher/special effects section. This data is called a snapshot. Whenever you recall a snapshot from memory, controls in these sections are instantly restored to their settings at the time when the snapshot was taken.
The following data are stored in snapshots.

- Input effect selections

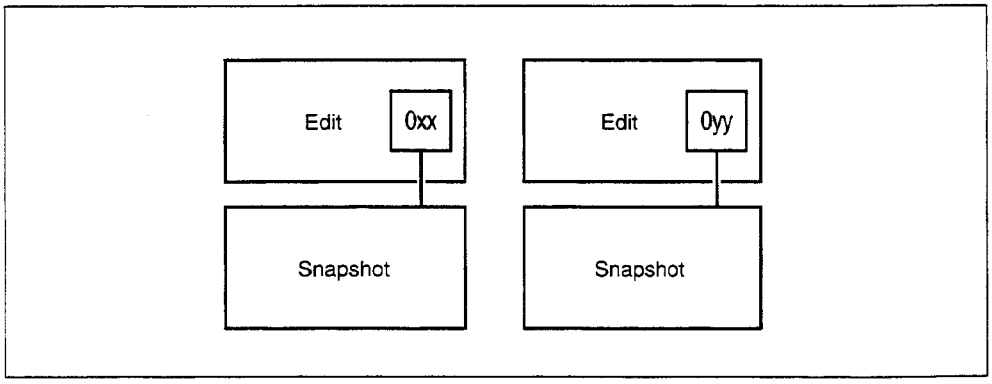
Note

Settings of the '+' and '–' keys in the INPUT EFFECT section may not be restored correctly.

- Whether the input effect functions are on or off
- Fade settings
- The fade transition time
- Whether the AUTO TRANS/PAUSE button is on or off
- The background color
- Whether the lever pause function is on or off
- Whether the audio follow function is on or off
- Whether video adjustment is on or off (the settings of the A-BUS and B-BUS buttons in the VIDEO LEVEL & HUE section)
- Pattern edge settings (in the the PATTERN EDGE section, whether the SOFT, OFF and BORDER indicators are on or off, and the settings of the COLOR and WIDTH buttons)
- Whether the pattern position function is on or off
- Whether the color compensation recall function is on or off
- The color compensation state stored in memory

Snapshot numbers

Snapshots are managed using the same numbers as edits. In other words, the same number is shared by one edit and one snapshot.

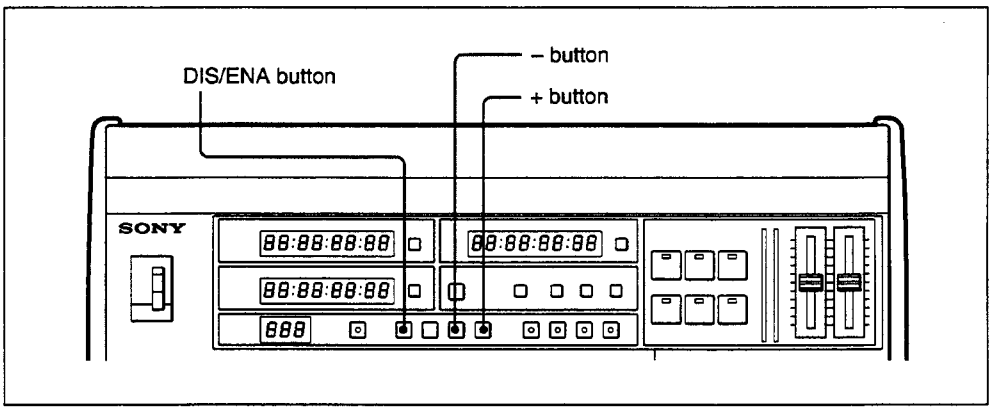


Relation between edits and snapshots

Using the EDL

Before performing edit operations such as registration, recall or revision, press the PGM MODE button, turning it on.
The following examples assume that the PGM MODE button is lit..

Selecting an edit for an EDL operation



Selecting an edit for an EDL operation

Except when registering a new edit, you will always need to select the edit to work with in an EDL operation.
To select an edit, press the '+' and '–' buttons in the EDIT PGM section until the number of the edit you wish to use appears in the edit number display.

+ button: The displayed number is incremented by 1 each time you press the button (unless 99 edits have been registered, in which case it changes to 001). Holding this button down increments the displayed number continuously.

– button: The displayed number is decremented by 1 each time you press the button. If the number is 001, it changes to the new edit number (unless 99 edits have beeen registered, in which case it changes to 099). Holding this button down decrements the displayed number continuously.

Note

The EDIT NO. button lights if an edit has been registered for the displayed number, and goes out if not.
The SNAPSHOT button lights if a snapshot has been registered, and goes out if not.

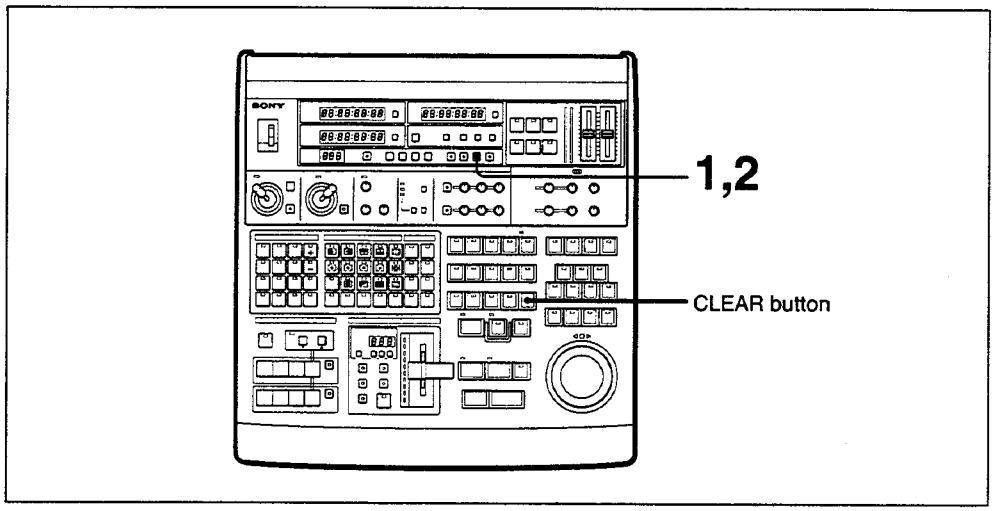
To skip edits during an EDL operation

When you perform an auto assembly operation involving multiple edits, or when you transfer data to and from the EDL, you can exclude specific edits from the operation.
To skip a specific edit, select that edit and press the DIS/ENA button.
The leftmost digit in the edit number display changes from '0' to a minus sign (–).
To undo the skip designation, press the DIS/ENA button once more. Note that the edit remains in EDL memory even if a minus sign is shown before its edit number.

Registering an Edit in the EDL

After selecting the edit, press the AUTO EDIT/END button in the AUTO CONTROL section to execute an automatic edit. The edit is registered in the EDL.

To register the edit without executing an automatic edit



Registering an edit

1 Press the STORE button in the EDIT PGM section, so that it begins to flash. To cancel the registration operation, press the CLEAR button in the AUTO CONTROL section.

2 Press the STORE button once more.
The edit is registered, and the flashing STORE button goes out.

Note

It is not possible to register an edit only or a snapshot only. If you recall an edit only and perform the above operation, the unit stores snapshot data for all of the snapshot settings on the control panel.

About overwriting registered edits

If any edit number other than the new edit number is displayed, either of the following operations will cause the edit currently registered under that number to be overwritten. (The displayed edit number is not incremented automatically.)

- Executing an automatic edit by pressing the AUTO EDIT/END button when the PGM MODE button is lit.
- Pressing the STORE button to register an edit.

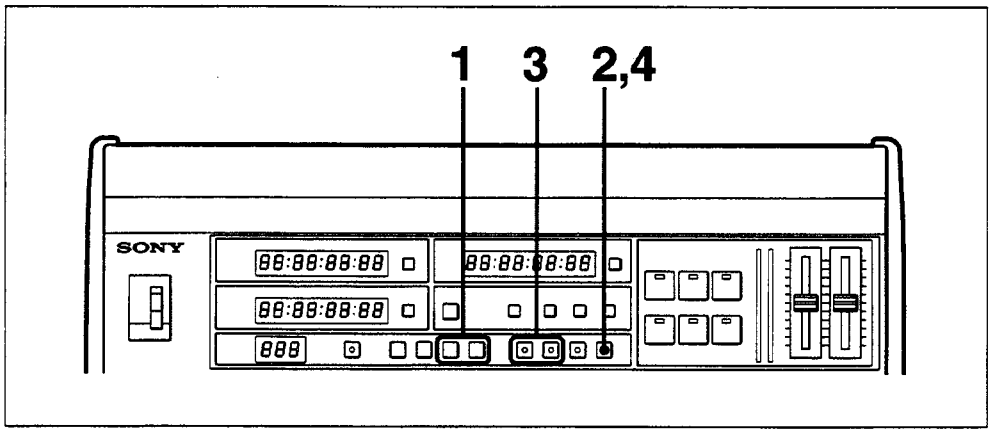
How long are edits held in internal memory?

Edits remain in internal EDL memory for about one week after you turn the unit off. If you want to save edits permanently, transfer them to a personal computer or other external equipment.

For details, see "Transferring Edits To and From External Equipment" (page 7-12).

Recalling Edits From the EDL

You can recall edits snapshots from memory in order to return the control panel to the state it was in at the time the edit/snapshot was saved. Proceed as follows.



Recalling an edit

1 Press the '+' and '–' buttons to select the edit.

2 Press the RECALL button, making it flash.
The unit enters edit/snapshot recall mode.
To cancel the recall operation, press the CLEAR button in the AUTO CONTROL section.

3
- To recall the edit alone, press the SNAPSHOT button, turning it off.
- To recall the snapshot alone, press the EDIT NO. button, turning it off.

4 Press the RECALL button once more.
The various buttons on the control panel light or go out, according to the settings contained in the selected edit/snapshot.

Notes

Note the following points when recalling an edit only.
- Any input effect settings which you may have made on the control panel are canceled at the time when you recall the edit if they are not compatible with the wipe patterns, mix patterns or key types contained in the edit data.
- If the recalled edit contains a wipe pattern, the relevant pattern selection button lights together with the USER1 button.

Revising and Deleting Edits

To revise an edit

To revise an edit, first recall it from the EDL, then use the normal procedures to adjust the settings.

For more information about how to adjust the settings, see the following sections:
- *Edit modes: Selecting an Edit Mode (page 5-3).*
- *Sources: Selecting Video and Audio Signals (page 4-7).*
- *Edit points: Changing edit points (page 5-21).*
- *Special effects: Selecting Special Effects (page 5-25).*
- *Transition times: Setting the Transition Time (page 5-58).*

To save an edit after recalling and revising it

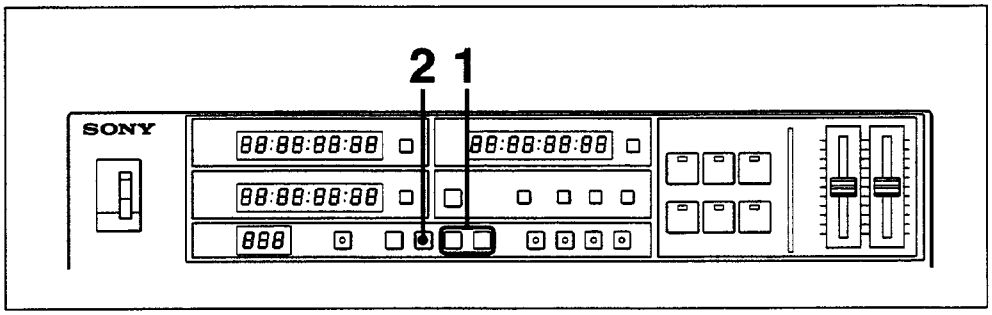
Press the AUTO EDIT/END button to execute an automatic edit, or press the STORE button.

To undo changes after previewing a recalled edit

Press the LAST ED (= SHIFT + GO TO) button in the AUTO CONTROL section.

To delete an edit

When you have no more use for an edit, proceed as follows to delete it from the EDL.



Deleting an edit

1 Press the '+' and '–' buttons to select the edit.

2 Press the DEL button.
The edit is deleted from the EDL and "∩" appears in the leftmost column of the edit number display.

Note

Deletions are permanent. Deleted edits cannot be restored.

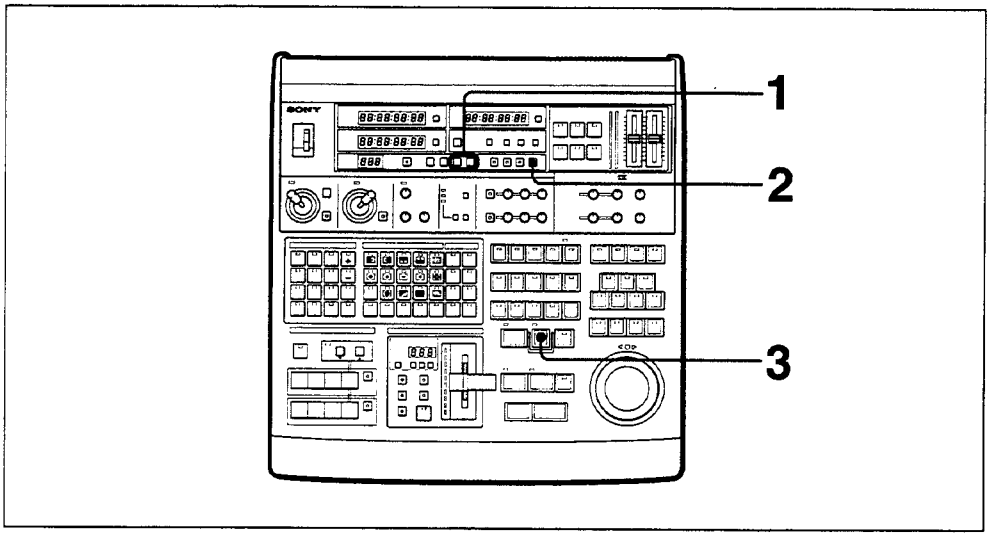
To delete all of the edits registered in the EDL

Under setup menu item 309 OVERFLOWED EDIT, select ALL CLEAN UP.

For details, see Chapter 8.

Using Registered Edits in Automatic Editing

Proceed as follows to use an edit from the EDL in automatic editing.



Using a registered edit in automatic editing

1 Press the '+' and '–' buttons to select the edit.

2 Press the RECALL button to recall the specified edit to the control panel.

3 Press the AUTO EDIT/END button in the AUTO CONTROL section.
An automatic edit begins, using the edit shown in the edit number display.

Before pressing the AUTO EDIT/END button, you can also preview the edit and make any revisions that may be necessary.

For details, see "Revising and Deleting Edits" (page 7-8).

To execute automatic edits continuously

You can also perform continuous automatic editing (auto assembly) using edits registered in the EDL.

For details, see page 5-66.

About automatic recall of snapshot data during continuous automatic editing

Input effect data which has been registered in snapshot memory is recalled automatically just before the IN point.

Transferring Edits To and From External Equipment

You can connect external equipment such as a personal computer to this unit's EDL IN/OUT connector in order to transfer data to and from the EDL memory.

Note

It is not possible to import snapshots created with external equipment. Importing edit data prepared on external editors and using it to execute an edit or continuous edit (auto assembly) can also result in errors.

About the EDL format

This unit uses the Sony format for EDL data.

Data transmission protocol

The data transmission protocol is factory preset as follows:

Stop bits: 1
Data bits: 8
Parity: None
Transmission speed: 9600 bps
Handshake: XON / XOFF

To transfer EDL data to external equipment

Designate an arbitrary edit as the initial edit. The initial edit and all subsequent edits will be transferred to the external equipment, except for those edits which you specifically exclude from the transfer.
Before the transfer, use setup menu item 310 EDL SWITCH to make the appropriate setting, depending on the destination and purpose of the transfer.

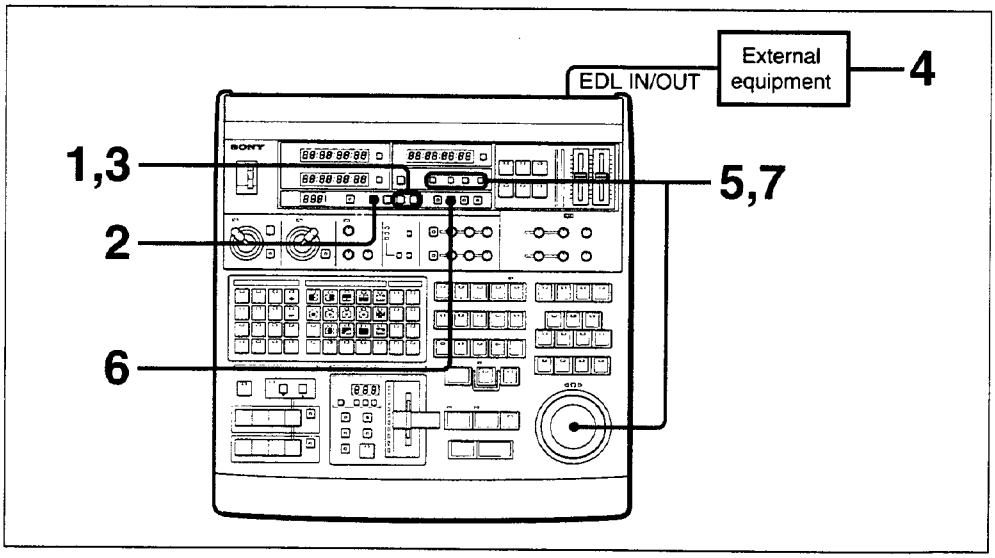
For details about using the setup menu, see Chapter 8.

Destination	Purpose	Menu item 310 EDL SWITCH setting
Computer	Print data created with this unit, or save it to a floppy disk.	DUMP1 (factory default) When this setting is selected, snapshot data can be transferred along with edit data.
Other editor	Use EDL data created with this unit on another editor.	DUMP2 • When this setting is selected, snapshot data cannot be transferred. • The reel numbers are transferred with both hundreds and tens places set to '0'. *For more information about reel numbers, see "EDL Output Format" (page 7-14).*

Note

Always set setup menu item 310 EDL SWITCH to "DUMP2" when transferring data to another editor. Data transferred with the switch set to "DUMP1" cannot be used by the other editor.

To transfer the data, proceed as follows.



Transferring EDL data to external equipment

1 If you want to exclude an edit from the transfer, select the edit using the '+' and '–' buttons in the EDIT PGM section. Otherwise proceed to step **3**.

2 Press the DIS/ENA button.
The '0' in the leftmost column of the edit number display changes to '–'. If there are any more edits that you want to skip, return to step **1**.

3 Use the '+' and '–' buttons to designate the initial edit.

4 Make preparations on the external equipment side to receive the data.

5 Depending on the destination and purpose of the transfer, set setup menu item 310 EDL SWITCH to "DUMP1" or "DUMP2", and then select GO.
- If you have selected DUMP2, the transfer begins as soon as you select GO.
- If you have selected DUMP1, proceed to step **6**.

6 If you want to transfer edit data only, press the SNAPSHOT button, turning it off.
To stop the transmission after it has begun, press the CLEAR button in the AUTO CONTROL section.

7 Under setup menu item 310 EDL SWITCH, select GO again, and press the SET button to begin the transmission.

To import EDL data from external equipment

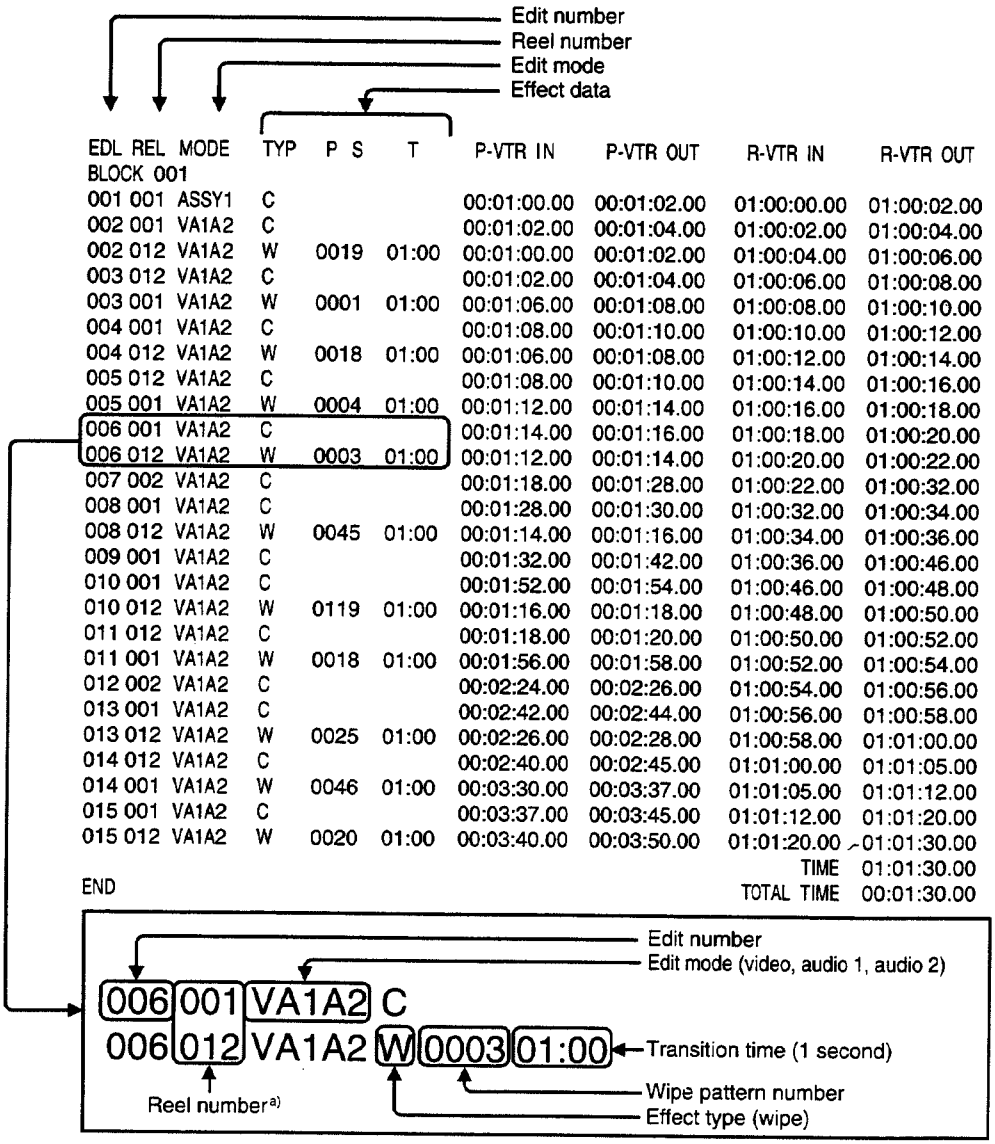
Proceed as follows to import data into the EDL from external equipment.

1 Under setup menu item 310 EDL SWITCH, select LOAD and then select GO.

2 Operate the external equipment to begin the data transmission.

EDL Output Format

The EDL output format of this unit is as follows.



EDL REL	MODE	TYP	P	S	T	P-VTR IN	P-VTR OUT	R-VTR IN	R-VTR OUT
BLOCK 001									
001 001	ASSY1	C				00:01:00.00	00:01:02.00	01:00:00.00	01:00:02.00
002 001	VA1A2	C				00:01:02.00	00:01:04.00	01:00:02.00	01:00:04.00
002 012	VA1A2	W	0019		01:00	00:01:00.00	00:01:02.00	01:00:04.00	01:00:06.00
003 012	VA1A2	C				00:01:02.00	00:01:04.00	01:00:06.00	01:00:08.00
003 001	VA1A2	W	0001		01:00	00:01:06.00	00:01:08.00	01:00:08.00	01:00:10.00
004 001	VA1A2	C				00:01:08.00	00:01:10.00	01:00:10.00	01:00:12.00
004 012	VA1A2	W	0018		01:00	00:01:06.00	00:01:08.00	01:00:12.00	01:00:14.00
005 012	VA1A2	C				00:01:08.00	00:01:10.00	01:00:14.00	01:00:16.00
005 001	VA1A2	W	0004		01:00	00:01:12.00	00:01:14.00	01:00:16.00	01:00:18.00
006 001	VA1A2	C				00:01:14.00	00:01:16.00	01:00:18.00	01:00:20.00
006 012	VA1A2	W	0003		01:00	00:01:12.00	00:01:14.00	01:00:20.00	01:00:22.00
007 002	VA1A2	C				00:01:18.00	00:01:28.00	01:00:22.00	01:00:32.00
008 001	VA1A2	C				00:01:28.00	00:01:30.00	01:00:32.00	01:00:34.00
008 012	VA1A2	W	0045		01:00	00:01:14.00	00:01:16.00	01:00:34.00	01:00:36.00
009 001	VA1A2	C				00:01:32.00	00:01:42.00	01:00:36.00	01:00:46.00
010 001	VA1A2	C				00:01:52.00	00:01:54.00	01:00:46.00	01:00:48.00
010 012	VA1A2	W	0119		01:00	00:01:16.00	00:01:18.00	01:00:48.00	01:00:50.00
011 012	VA1A2	C				00:01:18.00	00:01:20.00	01:00:50.00	01:00:52.00
011 001	VA1A2	W	0018		01:00	00:01:56.00	00:01:58.00	01:00:52.00	01:00:54.00
012 002	VA1A2	C				00:02:24.00	00:02:26.00	01:00:54.00	01:00:56.00
013 001	VA1A2	C				00:02:42.00	00:02:44.00	01:00:56.00	01:00:58.00
013 012	VA1A2	W	0025		01:00	00:02:26.00	00:02:28.00	01:00:58.00	01:01:00.00
014 012	VA1A2	C				00:02:40.00	00:02:45.00	01:01:00.00	01:01:05.00
014 001	VA1A2	W	0046		01:00	00:03:30.00	00:03:37.00	01:01:05.00	01:01:12.00
015 001	VA1A2	C				00:03:37.00	00:03:45.00	01:01:12.00	01:01:20.00
015 012	VA1A2	W	0020		01:00	00:03:40.00	00:03:50.00	01:01:20.00	01:01:30.00
								TIME	01:01:30.00
END								TOTAL TIME	00:01:30.00

a) On this unit, an automatic exchange of the selected sources on bus A and bus B (flipflop) does not occur after the execution of a transition. When data is transferred, the selected sources are always assigned the reel numbers shown below, depending on the setting of setup menu item 310 EDL SWITCH.

EDL SWITCH setting	Reel number assigned to selected source
DUMP1	Bus A: P1=001, P2=002, AUX=003, P1+BKGD=101, P2+BKGD=102, AUX+BKGD=103 Bus B: P1=011, P2=012, AUX=013, P1+BKGD=111, P2+BKGD=112, AUX+BKGD=113, R-VTR=990 (for A-roll edits only) • The hundreds place is '1' for combinations of sources and BKGD (the built-in color background generator). • The tens place is '1' for B-bus sources.
DUMP2	P1 or P1+BKGD=001, P2 or P2+BKGD=002, AUX or AUX + BKGD=003, R-VTR=990 (for A-roll edits only). • The hundreds place and the tens place are always '0'.

Chapter 8
Setup Menu

This chapter explains how to use the setup menu to configure an editing system around this unit for use under different operating conditions.
Update the settings in the setup menu after making system connections, when you change the connected VCRs, and whenever you alter the system configuration.

Setup Menu Item Table **8-2**
Using the Setup Menu **8-3**
Setup Menu Items **8-5**
System Configuration 8-5
Switcher 8-10
External Interface and EDL 8-15
VCR Device Constants 8-20

Setup Menu Item Table

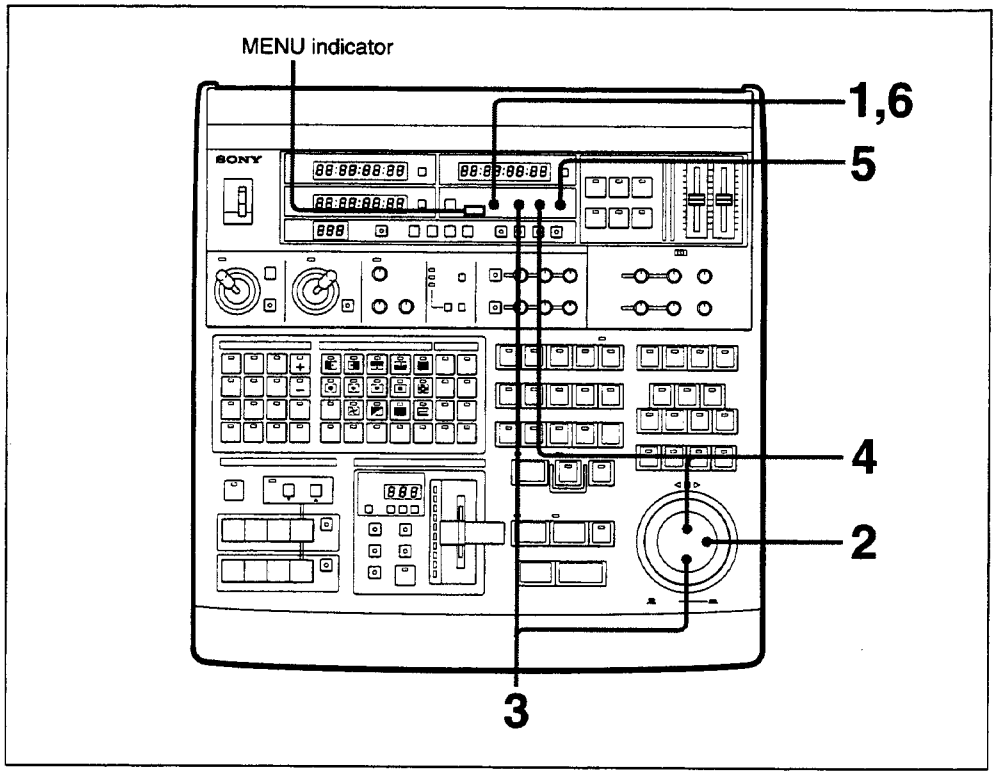
Settings for the following items can be changed with the setup menu.

Item group	Number	Name	Settings
System Configuration	101	VIDEO INPUT SELECT	Composite or S-video input
	102	PREROLL TIME	Preroll time
	103	BEEP	Warning sound on/off
	104	EDIT REFERENCE	Time code type (LTC or CTL)
	105	USER BITS	User bits
	106	CTL COUNTER AUTO RESET	CTL counter auto reset mode
	107	A-ROLL MODE SELECT	Freeze error recovery
	108	A-ROLL TIMING OFFSET	Auto freeze timing
	109	TC JUMP	Require continuous time codes
	110[a]	FRAME CONTROL MODE	Drop-frame mode
	111	FF/REW MODE SELECT	High-speed tape transport mode selected with FF and REW buttons
Switcher	201	WIPE PATTERN	User button wipe patterns
	202	DIGITAL CNR LEVEL	Color noise removal level
	203	DIGITAL YNR LEVEL	Y (luminance) signal noise removal level
	204	DIGITAL VERTICAL ENHANCER	Vertical enhancer trigger level
	205	COLOR CORRECTION ADJUSTMENT WIDTH	Color correction joystick range
	206 (FXE-100)	VIDEO LEVEL & HUE ADJUSTMENT WIDTH	Video level & hue knob range
	206 (FXE-100P)	VIDEO LEVEL & CHROMA PHASE ADJUSTMENT WIDTH	Video level & chroma phase knob range
	207	AUDIO CROSS POINT LEVEL	A/B bus audio cross point
	208	TRANSITION PATH	Transition speed
	209	H CENTER ADJUSTMENT	Horizontal sync phase
External interface and EDL	301	SYNC GRADE	Sync precision level
	302	COLOR FRAMING	Color framing or time code
	303	SYNC GRADE DISPLAY	Sync grade status display on/off
	304	RS232C BAUD RATE	RS-232C transmission rate
	306	INPUT EFFECT AUTO SELECT	Buttons or fader lever
	307	GPI1 TIMING	GPI1 pulse timing
	308	GPI2 TIMING	GPI2 pulse timing
	309	OVERFLOWED EDIT	EDL memory full recovery
	310	EDL SWITCH	Upload/download EDL data
VCR device constants	401	DEVICE TYPE PLAYER1	Player 1 device constant
	402	DEVICE TYPE PLAYER2	Player 2 device constant
	403	DEVICE TYPE RECORDER	Recorder device constant

a) FXE-100 only

Using the Setup Menu

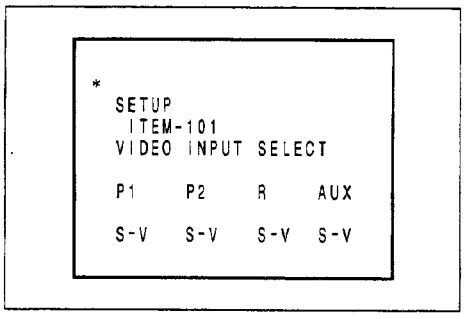
Proceed as follows to select menu items and change item settings.



Setup menu controls

1 Press the SCREEN button, turning on the MENU indicator.

2 Push the search dial in to select jog mode.
The most recently used setup menu item appears on the main monitor screen. The current setting flashes. If the item is set to the factory preset value, an asterisk (*) appears in the upper left corner of the screen.



(Continued)

3 While pressing the MENU button in the DIAL MENU section, rotate the search dial until the desired menu item appears on the screen.
Release the MENU button to select the item. The current setting flashes.
If the current item has more than one parameter item (for example P1, P2, R and AUX in menu item 101 VIDEO INPUT SELECT), rotate the search dial without pressing the MENU button until the desired parameter setting begins flashing.
"MENU" is displayed in the upper right corner of the screen while the MENU button is pressed.

4 While pressing the DATA button in the DIAL MENU section, rotate the search dial until the desired setting appears.
The setting flashes. "DATA" is displayed in the upper right corner of the screen while the DATA button is pressed.

5 Press the SET button.
The setting selected in step **4** is confirmed. "SET" is displayed in the upper right corner of the screen while the SET button is pressed.

6 Press the SCREEN button to extinguish the MENU indicator.

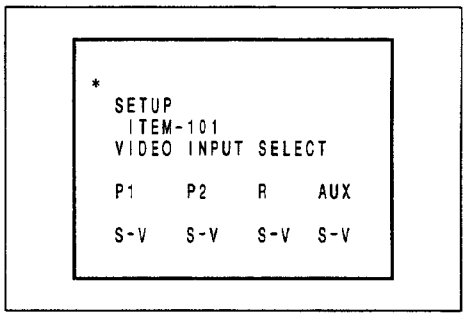
Setup Menu Items

Items marked with an asterisk (*) are set to the factory preset value.

System Configuration

101 VIDEO INPUT SELECT

Select the type of input signals for the VIDEO INPUT connectors. Rotate the search dial only to select composite video or S-video for player 1, player 2, the recorder and auxiliary source 1.

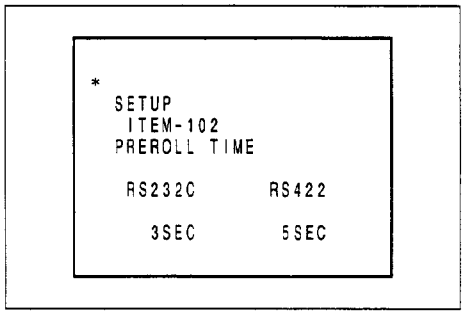


Settings

V	Composite video signals
*S-V	S-video signals

102 PREROLL TIME

Select the preroll time for the connected VCRs. Settings may be made separately for VCRs connected to the RS-232C and RS-422 connectors. Select RS232C or RS422 by rotating the search dial only.



Settings

RS-232C connector

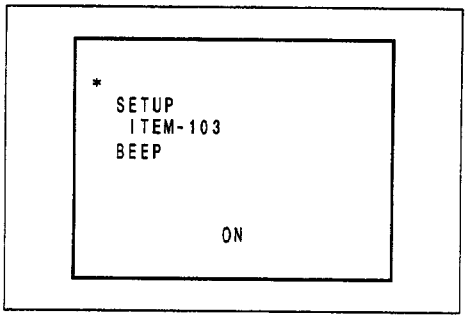
*3SEC	3 seconds
5SEC	5 seconds
7SEC	7 seconds
10SEC	10 seconds

RS-422 connector

3SEC	3 seconds
*5SEC	5 seconds
7SEC	7 seconds
10SEC	10 seconds

103 BEEP

Choose whether or not to beep when a key is pressed, and when an edit point is passed during preview or automatic edit execution.

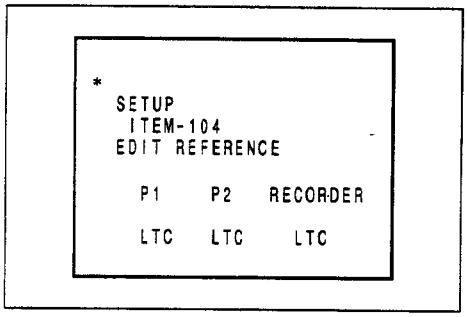


Settings

OFF	Do not beep.
*ON	Beep.

104 EDIT REFERENCE

Select the time data type for player 1, player 2 and the recorder. Select LTC (longitudinal time code) or CTL by rotating the search dial only.



Settings

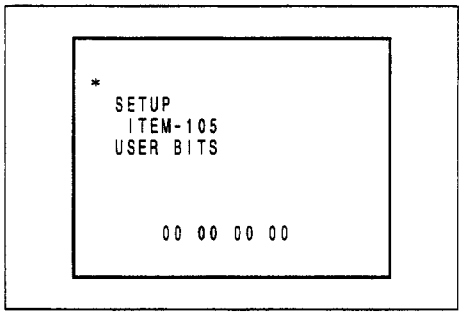
*LTC
CTL

Note

There is a greater possibility that errors will occur during high-speed tape transport (for example, between the preroll point and the IN point) when CTL signals are used. This item should normally be set to LTC unless there is no time code recorded on the tape.

105 USER BITS

You can freely use the 32 bits in the user bits section of time code to record information such as dates or cut numbers. Rotate the search dial only to select two-digit hexadecimal values between 00 and FF.

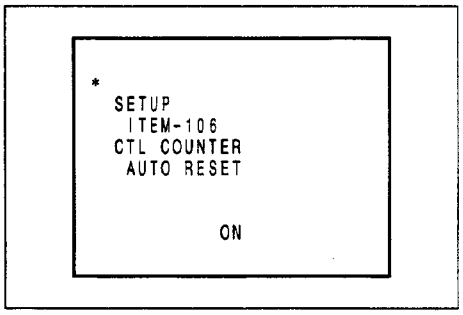


Settings

*00
00 to FF

106 CTL COUNTER AUTO RESET

Choose whether or not to automatically reset the CTL counter when the unit is turned on and off, and when tapes are ejected.

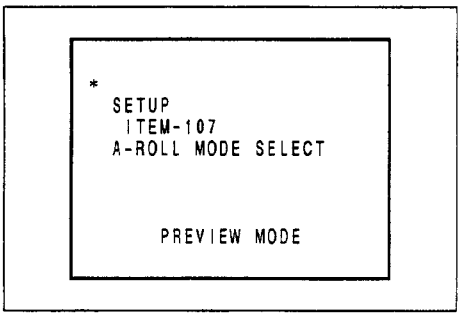


Settings

*ON	Reset.
OFF	Do not reset.

107 A-ROLL MODE SELECT

In A-roll editing, some recorder VCRs enter E-E mode before the IN point, making it impossible to read in a freeze frame. When this occurs, select PREVIEW MODE under this item before executing the edit.



Settings

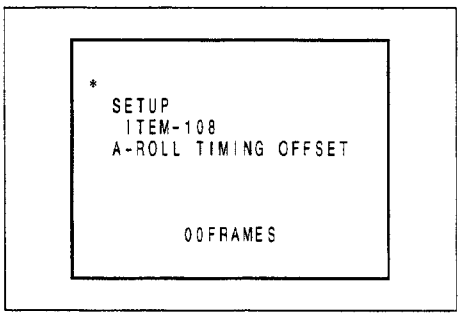
AUTO EDIT MODE	When AUTO EDIT/ END button is pressed, read in frame two frames before recorder IN point and execute edit immediately.
*PREVIEW MODE	When AUTO EDIT/ END button is pressed, enter preview mode and read in playback frame one frame before recorder IN point. Then enter edit mode and begin recording.

Note

When this item is set to PREVIEW MODE the unit requires more time to execute an edit.

108 A-ROLL TIMING OFFSET

In A-roll editing, the frame before the recorder IN point is read into digital frame memory. But depending on the VCR in use, automatic freeze timing may be off by a certain number of frames. If the unit is unable to read in the correct freeze frame, use this item to specify an offset in frames between the correct frame and the frame which was actually read in. For example, if the frame actually read in was two frames after the IN point, set this menu item to –03 FRAMES to read in the frame one frame before the IN point.

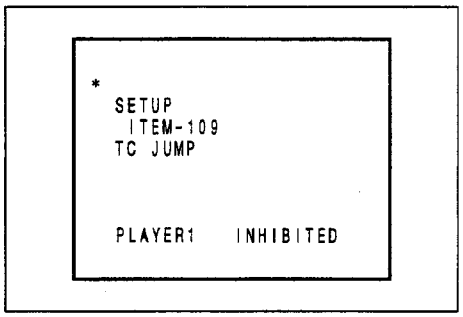


Settings

*00FRAMES	Do not adjust timing.
–10 to 10 FRAMES	Adjust timing by number of frames.

109 TC JUMP

Select whether or not to continue editing when non-consecutive time codes are discovered between the preroll point and the IN point. To select settings for player 1, player 2, and the recorder, rotate the search dial only while pressing the DATA button.



Settings

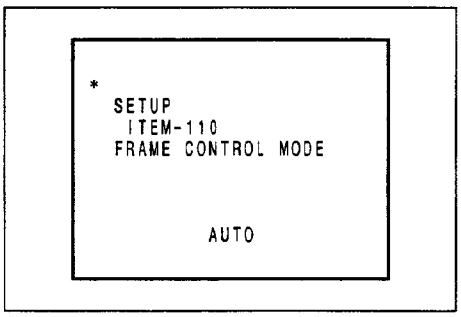
ALLOWED	Continue editing despite non-consecutive time codes.
*INHIBITED	Do not continue editing.

Note

When time codes are not consecutive, it takes longer to cue up an edit point.

110 FRAME CONTROL MODE (FXE-100 only)

Select the frame control mode for time code processing (drop-frame or non-drop frame mode).



Settings

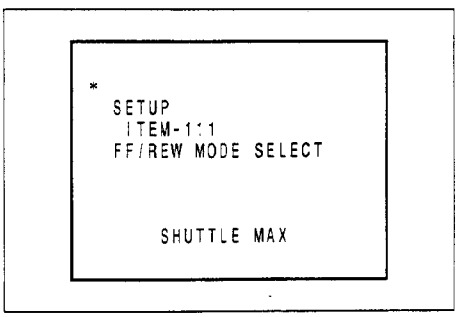
*AUTO	Use the mode found on recorder tape.
DF	Drop-frame mode.
NDF	Non-drop frame mode.

Note

If you execute a first edit when this item is set to AUTO, time code is inserted in non-drop frame mode.

111 FF/REW MODE SELECT

Select the high-speed transport mode selected by pressing the REW (rewind) and FF (fast forward) buttons in the MANUAL CONTROL section.



Settings

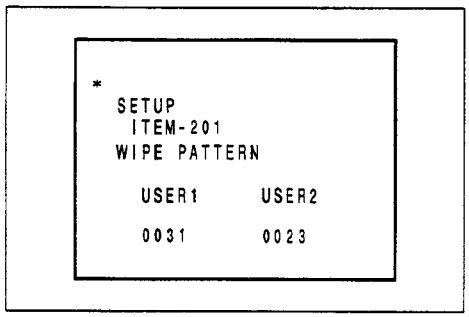
*SHUTTLE MAX	Maximum-speed shuttle mode
FF/REW	Fast forward and rewind mode

Switcher

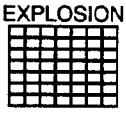
201 WIPE PATTERN

Select the patterns to assign to the USER1 and USER2 buttons in the WIPE PATTERN section by choosing a four-digit decimal pattern code number for each button. Rotate the search dial only to select the button for assignment.

For wipe pattern code numbers, see the table in the Appendixes (page A-11).

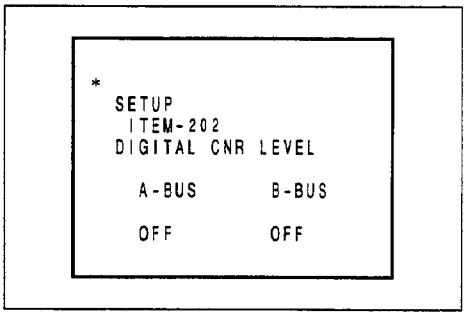


Default user button assignments

USER 1	USER 2
EXPLOSION  0031	0023

202 DIGITAL CNR LEVEL

Select the color noise reduction (CNR) level for video read into digital frame memory. Rotate the search dial only to select settings for bus A and bus B.



Settings

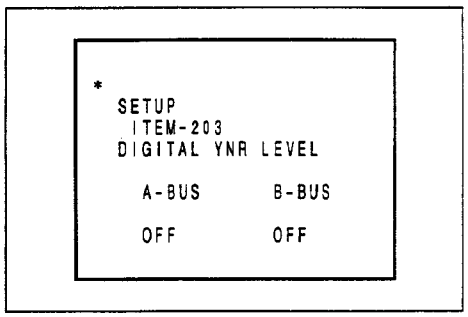
*OFF	No CNR
LOW	Low level
MIDDLE	Middle level
HIGH	High level

Note

If CNR is set to HIGH, a faint color shadow remains from the previous frame when frames are switched. This is not a malfunction in the unit.

203 DIGITAL YNR LEVEL

Select the luminance (Y signal) noise reduction level for video read into digital frame memory. Rotate the search dial only to select settings for bus A and bus B.

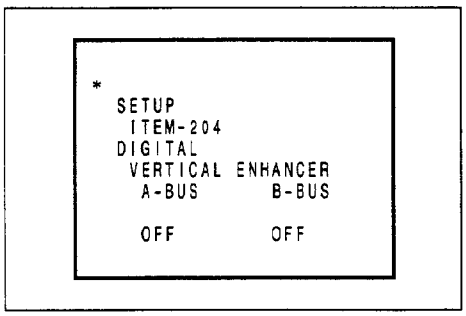


Settings

*OFF	No YNR
VERY LOW	Very low level
LOW	Low level
MIDDLE	Middle level
HIGH	High level

204 DIGITAL VERTICAL ENHANCER

Select the trigger level for the vertical enhancement circuits, which produce sharp edges in the picture. Rotate the search dial only to select settings for bus A and bus B.

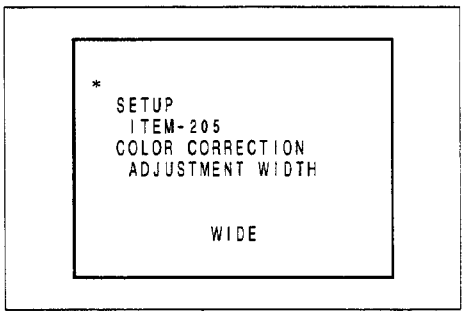


Settings

*OFF	No vertical enhancement
VERY LOW	Very low level
LOW	Low level
MIDDLE	Middle level
HIGH	High level

205 COLOR CORRECTION ADJUSTMENT WIDTH

Select the COLOR CORRECTION joystick range.



Settings

*WIDE	Coarse adjustment
FINE	Fine adjustment

206 VIDEO LEVEL & HUE ADJUSTMENT WIDTH (FXE-100) VIDEO LEVEL & CHROMA PHASE ADJUSTMENT WIDTH (FXE-100P)

Select the adjustment range for the HUE (FXE-100) or CHROMA PHASE (FXE-100P), LUMINANCE and CHROMINANCE knobs in the VIDEO LEVEL & HUE (FXE-100) or VIDEO LEVEL & CHROMA PHASE (FXE-100P) section.

a) FXE-100: VIDEO LEVEL & HUE
FXE-100P: VIDEO LEVEL & CHROMA PHASE

Settings

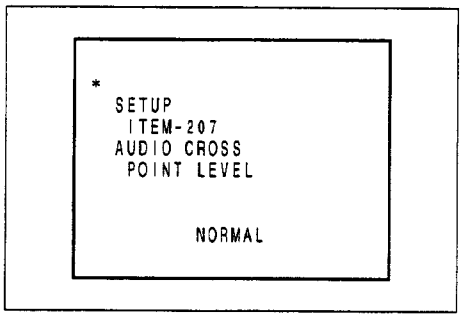
WIDE	Coarse adjustment
*FINE	Fine adjustment

Note for FXE-100P

When adjusting the color subcarrier phase, use a vectorscope to measure the adjustments.

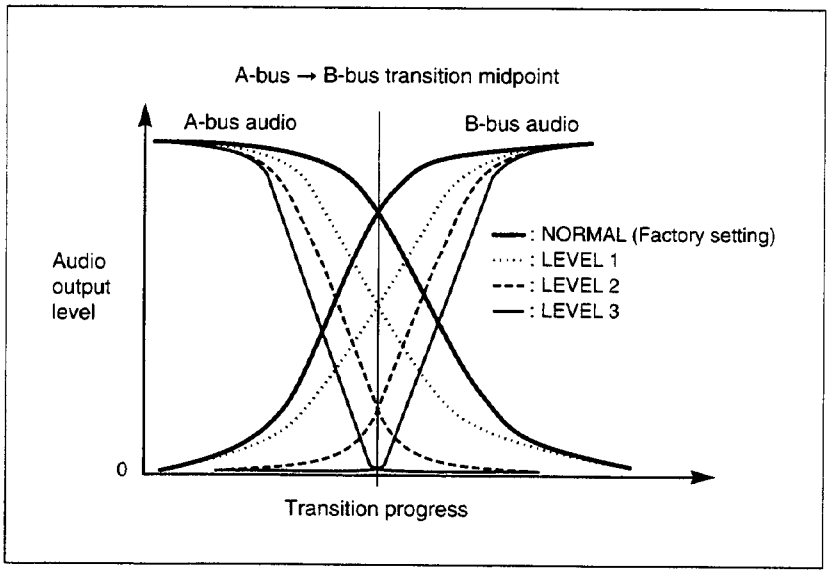
207 AUDIO CROSS POINT LEVEL

Select the audio cross point, or level at the transition midpoint where the audio signals overlap when switching between the two buses. Audio output is very low at the LEVEL 3 setting, and increases in volume for both the A and B buses from quiet at the LEVEL 2 setting to normal at the NORMAL setting.



Settings

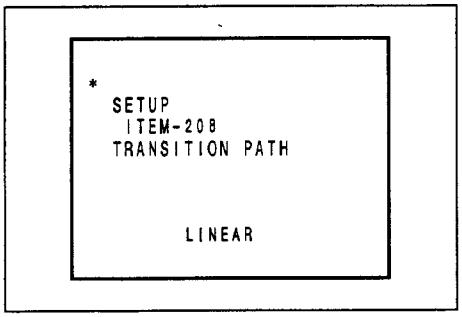
LEVEL 1	Rather low volume
LEVEL 2	Low volume
LEVEL 3	Very low volume
*NORMAL	Normal volume



Transition from bus A to bus B

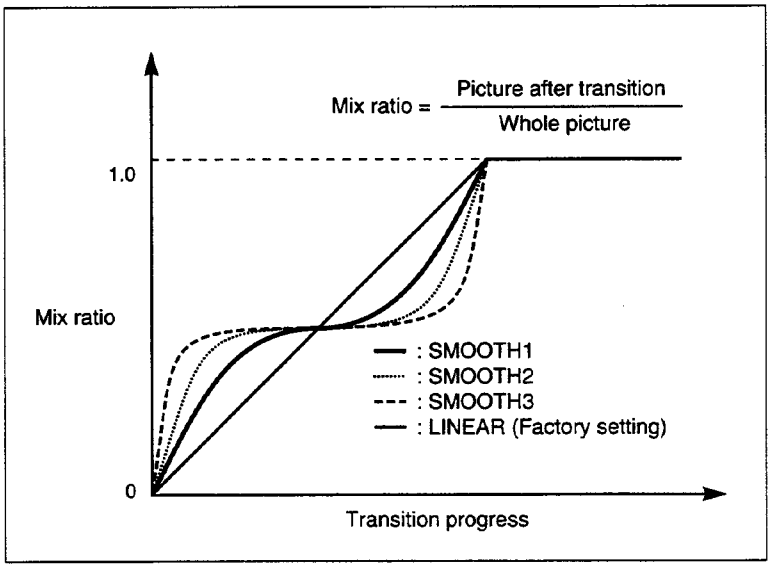
208 TRANSITION PATH

Select the speed at which video is switched during a transition. A-bus video and B-bus video are mixed at identical ratios under the SMOOTH1 to SMOOTH3 settings, and at a linear ratio under the LINEAR setting. The settings in this menu allow fine cotrol of the transition when you have selected a mix as the transition effect.



Settings

SMOOTH1	Switch quickly.
SMOOTH2	Switch rather quickly.
SMOOTH3	Switch slowly.
*LINEAR	Switch at a constant rate.



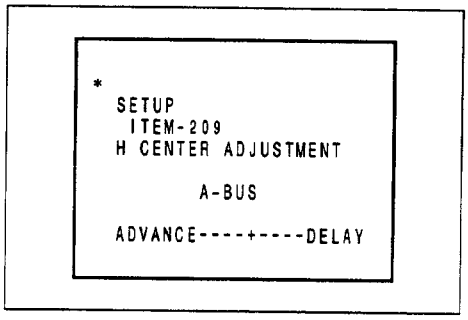
Transition path

Note

This graph is intended to illustrate the effect and does not necessarily represent the exact mix ratios.

209 H CENTER ADJUSTMENT

. Adjust to control picture stability and horizontal position (horizontal sync phase). While pressing the DATA button, rotate the search dial counterclockwise to move the cross cursor toward ADVANCE (the picture shifts to the left), and clockwise to move it toward DELAY (the picture shifts to the right). Rotate the search dial only to select settings for bus A and bus B.



Settings

*Center	Do not adjust the phase.
ADVANCE	Advance the phase.
DELAY	Delay the phase.

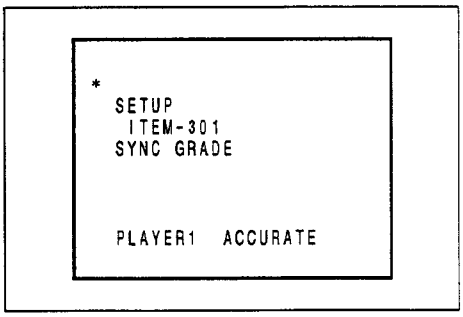
Note

- Proceed carefully when adjusting the sync phase.
- After adjusting the picture position with the search dial, press the SET button. If the SET button is not pressed, the picture returns to its original position.

External Interface and EDL

301 SYNC GRADE

Select synchronizing precision for VCRs connected to this unit. Rotate the search dial while pressing the DATA button to select player 1, player 2 and the recorder.

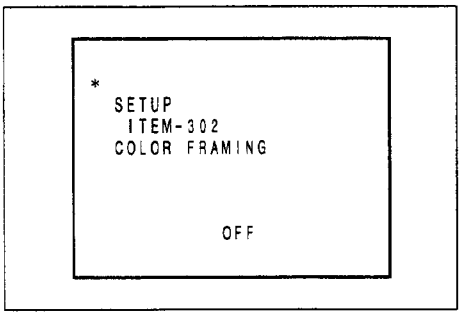


Settings

*ACCURATE	Synchronization is accurate to ±0 frames. The unit monitors VCR synchronization, and does not execute an edit until the VCRs are completely locked. If they cannot be synchronized after three preroll attempts, the accuracy is lowered to +/–1 FRAME.
+/– 1 FRAME	Synchronization is accurate to ±1 frame. Executes an edit if all checkpoints are accurate to within one frame. If VCRs cannot be synchronized after two preroll attempts, the accuracy is lowered to ROUGH.
ROUGH	Executes an edit as soon as sync signals coincide, however briefly. If VCRs cannot be synchronized after two preroll attempts, the accuracy is lowered to PREROLL & PLAY.
PREROLL & PLAY	No synchronization. Execute edit immediately after preroll.

302 COLOR FRAMING

Select whether color framing or time code should be given priority when recording on the master tape.

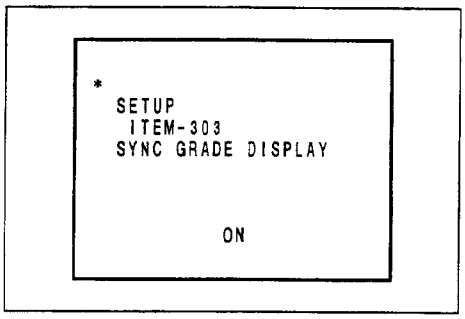


Settings

*OFF	Use time codes recorded on the master tape.
VTR SETTING	Use the color framing settings selected on the recorder VCR side.

303 SYNC GRADE DISPLAY

Select whether or not to include the VCR sync grade, set under menu item 301, in the main monitor status display.

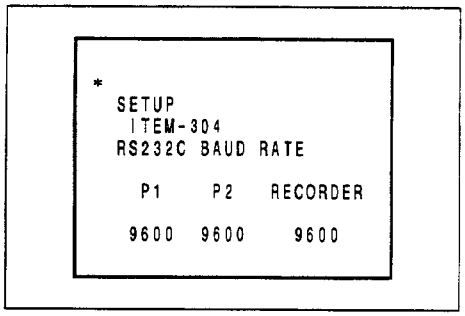


Settings

OFF	Do not display.
*ON	Display.

304 RS232C BAUD RATE

Select the data transmission rate for communications with VCRs connected to the RS-232C connectors. Rotate the search dial only to set the rate for player 1, player 2 and the recorder.

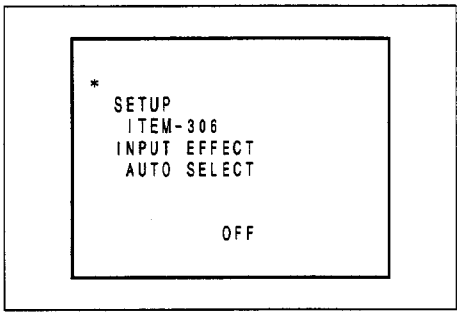


Settings

*9600	9600 bps
19200	19200 bps

306 INPUT EFFECT AUTO SELECT

Either the fader lever or the A-BUS and B-BUS buttons in the INPUT EFFECT section can be used to select the bus affected by input effects. Use this menu item to choose automatic selection by the fader lever, or manual selection by the A-BUS and B-BUS buttons.



Settings

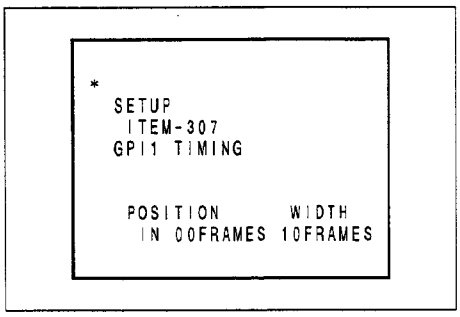
*OFF	Input effect bus selected by A-BUS and B-BUS buttons, regardless of fader lever position.
ON	Input effect bus selected by fader lever position. A-BUS and B-BUS buttons are disabled and do not light when pressed.

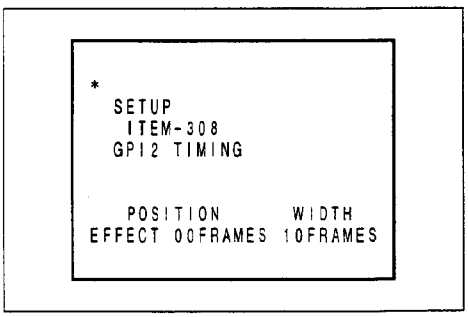
307 GPI1 TIMING

308 GPI2 TIMING

Select the timing and pulse width of pulses output from the GPI1 OUT and GPI2 OUT connectors. Pulses may be output at the IN point, at the effect starting point, or at the OUT point, as selected here.

When this menu is displayed, one of the IN, EFFECT or OUT settings will be visible and flashing. If, at this point, you press the DATA button and rotate the search dial, you can select the other settings. When you reach the desired setting, release the DATA button and the frame count begins to flash. In this state, you can rotate the search dial while pressing the DATA button to select an offset in frames between the IN, effect or OUT point and the point where the pulses are actually output. Or you can rotate the search dial only to select the pulse width.





(Continued)

Settings

Output points

*IN	IN point (GPI1 factory default)
*EFFECT	Effect starting point (GPI2 factory default)
OUT	OUT point

Output timing

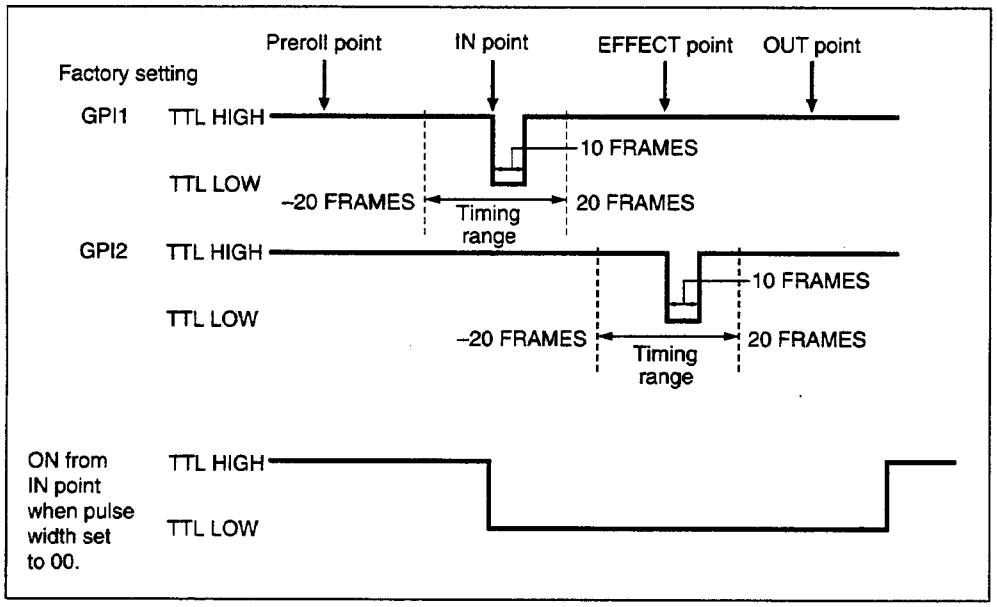
*00FRAMES
–20 to 20 FRAMES

Pulse width

*10FRAMES
00 to 10FRAMES a)

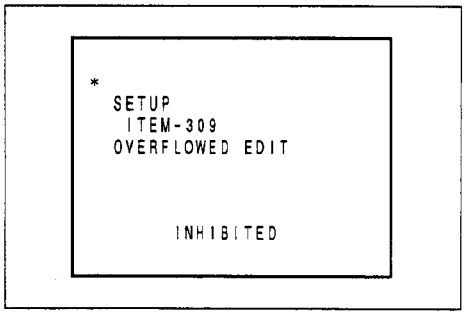
a) When set to 00, the GPI pulse remains ON until the end of the edit.

The range of selectable pulse timing offsets is as follows.



309 OVERFLOWED EDIT

Specifies how the unit should respond when an attempt is made to register a new edit when the EDL is already full (already contains 99 edits).



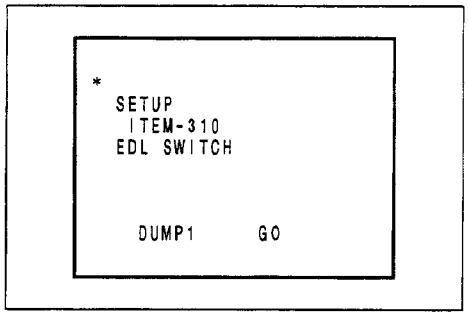
Settings

*INHIBITED	The new edit is not registered, and an error code is displayed in the time counter display.
OVERWRITE	Edit number 001 is overwritten by the new edit.
ALL CLEAN UP	All edits are deleted from EDL memory.

310 EDL SWITCH

Transfer or receive EDL data through the RS-232C connectors.
Display the DUMP1 or DUMP2 item when you want to export data, or the LOAD item when you want to import data, and then press the SET button. Next rotate the search dial to select GO and press the SET button once more to begin the transmission.
If you selected DUMP1, the SNAPSHOT button in the EDIT PGM section begins to flash. To transfer edit data only, press the SNAPSHOT button, turning it off. Then select GO again and press the SET button to begin the transfer of edit data only.
When the transfer begins, the GO display automatically changes to CANCEL.
To cancel a transfer after it has already begun, do one of the following.

- Rotate the search dial to display CANCEL, and then press the SET button.
- Press the CLEAR button in the AUTO CONTROL section.
- Press the ALL STOP button.



Settings

* DUMP1	Transfer data created with this unit to a computer in order to print the data or save it to a floppy disk.
DUMP2	Transfer data created with this unit to another editor in order to use the data on the other editor. • Snapshot data cannot be transferred. • The reel numbers are transferred with both hundreds and tens places set to '0'.
LOAD	Receive data.

* GO	Begin transmission
CANCEL	Stop transmission

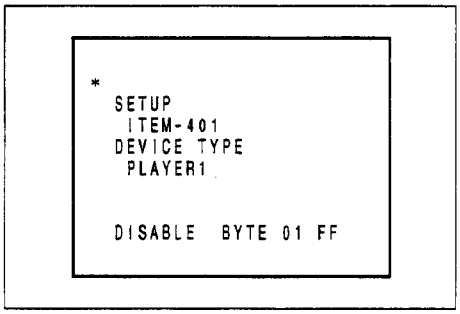
VCR Device Constants

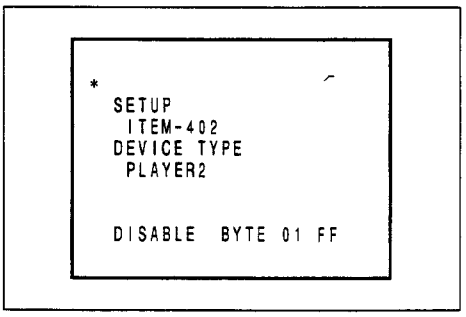
401 DEVICE TYPE PLAYER 1
402 DEVICE TYPE PLAYER 2
403 DEVICE TYPE RECORDER

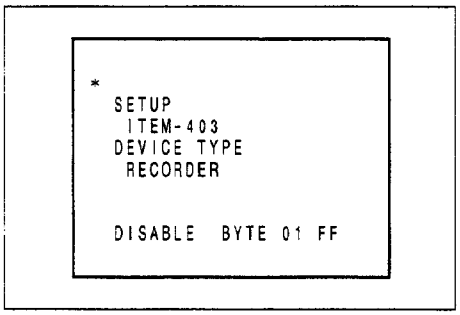
Using status signals sent by the VCR, the FXE-100 is able to automatically identify many commonly used VCRs, and to control tape transport for those VCRs by referring to an internal device constant table.
VCR device constants are made up of 15 data items, each item being expressed as a two-digit hexadecimal number.

For details, see "VCR constant data items" (page 8-21) and "Automatically detected VCRs and internal device constants" (page 8-22).

Normally it should not be necessary to set VCR constants manually. But depending on operating conditions and the type of VCR, the unit is sometimes unable to achieve the precise control needed for editing. In such cases, you can use these menu items to define new device constants for each VCR.
To define a device constant, set the DISABLE/ENABLE parameter to ENABLE, select the data byte (a decimal number between 00 and 15) which you want to modify, and then select a two-digit hexadecimal value for that byte.
When not using a newly defined device constant, return the DISABLE/ENABLE parameter to DISABLE.







Settings		Item number	Value
* DISABLE	Use the unit's device constant table instead of user-defined device constants.	BYTE 01 to 15 (decimal)	00 to FF (hexadecimal)
ENABLE	Use user-defined device constants.		

VCR constant data items

VCR constant data items

Item number	Setting	Meaning
BYTE 01 BYTE 02	Device type	Defines the VCR type. **Factory default:** BYTE 01: FF BYTE 02: FF
BYTE 03 BYTE 04	Minimum preroll time	Specifies the minimum preroll time required by the VCR in units of frames. The preroll time specified here is always used, even if setup menu item 102 PREROLL TIME is used to specify a shorter time. BYTE 03 is the most significant byte. **Factory default:** 00 5A (FXE-100) or 00 55 (FXE-100P)
BYTE 05	Edit delay	Corrects for the delay in frames from the time when a REC command is sent to the VCR until the time when recording actually starts. **Factory default:** 05
BYTE 06	E-E delay	Corrects for the delay in frames from the time when a PB/EE command is sent to the VCR until the time when it actually enters preview mode. **Factory default:** 05
BYTE 07	Overrun delay	Corrects for the overrun in frames past a specified preroll point in a preroll stop. **Factory default:** 03 (FXE-100) or 02 (FXE-100P)
BYTE 08	Trajectory	Specifies the optimum speed curve for preroll. Higher values are required for VCRs with lower positionability. **Factory default:** 84
BYTE 09	Time code read delay	Corrects for the delay in frames from the time when a VCR receives a tape transport command until the time when it is able to read time code. **Factory default:** 0A
BYTE 10	Pinch-on delay	Corrects for the delay in frames from the time when a VCR receives a tape transport command until it actually begins moving the tape. **Factory default:** 08 (FXE-100) or 07 (FXE-100P)
BYTE 11	Post-sync delay (–)	For the transition to playback after synchronization, specifies the optimum command delay in frames for servo-lock from lower speeds. **Factory default:** FB
BYTE 12	Post-sync delay (+)	For the transition to playback after synchronization, specifies the optimum command delay in frames for servo-lock from higher speeds. **Factory default:** 00
BYTE 13	MODE 1	Bits 1 to 7: Specify the maximum framing value permitted by the VCR format. 0: 2-field lock 1: 4-field lock 3: 8-field lock Bit 8: Specifies whether or not the VCR permits CTL (timer) interpolation of time code. 1: Possible 0: Not possible **Factory default:** 80
BYTE 14	Mode 2	Bit 1: Specifies whether color framing status from the VCR is enabled or disabled. 1: Enabled 0: Disabled Bits 2 to 8: Specify the maximum time in frames until VCR frame lock. **Factory default:** 2E (FXE-100) or 2A (FXE-100P)
BYTE 15	Max preroll speed	Specifies the maximum tape speed during preroll as a multiple of normal tape speed. When set to FF, the speed is the same as fast forward and rewind speed. **Factory default:** FF

Automatically detected VCRs and internal device constants

The FXE-100/100P is able to detect VCRs in the following table automatically, and to control them using the constant values (hexadecimal) in data items 3 through 15.

FXE-100 internal device constants

Data item / VCR type	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
VO-9800	10	48	00	96	08	08	04	0C	0A	04	FF	00	00	78	08
VO-9850	10	4C	00	96	08	08	04	0C	0A	04	FF	00	00	78	08
SVP-9000	10	28	00	96	08	08	05	8A	0A	04	FF	00	00	78	0A
SVO-9600	10	2C	00	96	08	08	05	8A	0A	04	FF	00	00	78	0A
PVW-2600	20	40	00	96	05	05	03	04	0A	08	FB	00	81	19	FF
PVW-2800	20	41	00	96	05	05	03	04	0A	08	FB	00	81	19	FF
PVW-2650	20	42	00	96	05	05	03	84	0A	08	FB	00	9D	19	FF
UVW-1600	20	50	00	5A	05	05	03	84	0A	08	FB	00	80	2E	FF
UVW-1800	20	51	00	5A	05	05	03	84	0A	08	FB	00	80	2E	FF
EVO-9800/9800A	80	08	00	96	08	08	07	94	0A	07	FC	00	00	5A	07
EVO-9850	80	0C	00	96	05	05	07	80	0A	06	FC	00	00	5A	0A

FXE-100P internal device constants

Data item / VCR type	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
VO-9800P	11	48	00	7D	08	08	04	0C	0A	04	FF	00	01	64	08
VO-9850P	11	4C	00	7D	08	08	04	0C	0A	04	FF	00	01	64	08
SVP-9020	11	28	00	7D	08	08	05	8A	0A	04	FF	00	01	4B	0A
SVO-9620	11	2C	00	7D	08	08	05	8A	0A	04	FF	00	01	4B	0A
PVW-2600P	21	40	00	7D	05	05	03	04	0A	07	FF	00	83	31	FF
PVW-2800P	21	41	00	7D	05	05	03	04	0A	07	FF	00	83	31	FF
PVW-2650P	21	42	00	7D	05	05	03	84	0A	08	FB	00	9F	19	FF
UVW-1600P	21	50	00	55	05	05	02	84	0A	07	FB	00	80	2A	FF
UVW-1800P	21	51	00	55	05	05	02	84	0A	07	FB	00	80	2A	FF
EVO-9800P	81	08	00	7D	08	08	08	8E	0A	07	FC	00	01	5B	07
EVO-9850P	81	0C	00	7D	05	05	07	80	0A	0A	FC	FE	01	4C	0A

For more information about connecting VCRs other than those listed above, please contact qualified Sony service personnel.

Appendixes

Error Messages A-2
In Case of Trouble A-4
Audio Signal Flow A-7
GPI Interface Effect Timing A-10
Wipe Patterns A-11
Specifications A-16
Glossary A-20

Error Messages

When you try to perform an illegal operation, or when there is a problem with the connected VCRs, an error code is shown in the appropriate time counter display and an error message is shown in the main monitor status display. Take the action shown below to correct the problem.

Note

Error messages use the following abbreviations to refer to VCRs.
P1: Player 1
P2: Player 2
R: Recorder

Error code	Error message	Meaning	Action to take
01	**CANNOT CONTROL DUE TO VTR LIMITATION**	A limitation on the VCR side prevented execution of an edit setting.	Consult your VCR manuals and execute the edit again after removing the limitation.
02	**CANNOT CUE UP P1, P2, R**	The specified edit point cannot be cued up.	Check whether the edit point exists on the tape. If time code data on the tape is discontinuous, use setup menu item 109 TC JUMP to select discontinuous time code for the VCR, then try to cue up again.
03	**CANNOT EXECUTE P1, P2, R**	Edit execution began but could not be completed.	Check the VCR(s) which caused the failure.
04	**CANNOT PRESET TIME CODE P1, P2, R**	The unit cannot preset time code because VCR time code switches are set to prevent it.	• Set VCR switches to allow the unit to preset time code. • Check to be sure that the VCR supports time code recording.
05	**CANNOT READ TIME CODE P1, P2, R**	Time code could not be read when the MARK IN or MARK OUT button in the TIME MARK section was pressed.	Check the time code selected under setup menu item 104 EDIT REFERENCE.
06	**CANNOT RECORD**	Recording did not start when the AUTO EDIT/END button or the REC button in the MANUAL CONTROL section was pressed.	• Check to be sure that the tape is not write inhibited. • Check to be sure that the VCR connected to the recorder connector on the connector panel supports recording as well as playback.
07	**CANNOT SYNCHRONIZE P1, P2, R**	The listed VCRs could not be synchronized at the specified precision.	Use setup menu item 301 SYNC GRADE to lower the synchronizing precision for the listed VCRs.
08	**INAPPROPRIATE SETUP P1, P2, R**	Conflicting data was entered in the setup menu.	Enter the data again, removing the conflict.
09	**DURATION UNDEFINED (AUX)**	An attempt was made to execute an edit without setting a duration for auxiliary source 1.	Set the duration for auxiliary source 1 (AUX).
10	**EDIT MODE UNDEFINED**	Edit execution was attempted without selecting an edit mode.	Select an edit mode.

Error code	Error message	Meaning	Action to take
11	IN POINT UNDEFINED P1, P2, R	Edit execution was attempted without defining a source IN point.	Define the IN point.
12	OUT POINT UNDEFINED P1, P2, R	An attempt was made to register an edit in the EDL without defining a recorder OUT point. Or edit execution was attempted using an invalid recorder OUT point.	Define a valid recorder OUT point.
13	EDIT NOT REGISTERED	In an edit recall operation, the specified edit could not be found in the EDL.	Specify a different edit number.
14	EDL MEMORY ERROR	The EDL may be corrupt.	Check the contents of the EDL.
		The backup battery for EDL memory is exhausted.	Leave the unit on for 30 minutes or longer to recharge the battery.
15	ERROR P1, P2, R	An invalid operation was attempted, or invalid data was entered.	Check the operation, or re-enter the data.
16	EDL COMM ERROR	An error occurred during communications with equipment connected to the EDL IN/OUT connector.	Check the external communications program to be sure that it is using the correct data transmission protocol (*see page 7-11*).
17	INVALID FADE TIME	The fade in transition time is longer than the FROM source duration.	Reset the fade in transition time to a value shorter than the FROM source duration.
		The fade out transition time is longer than the TO source duration.	Reset the fade out transition time to a value shorter than the TO source duration.
18	INVALID SOURCE	An invalid source was specified.	Specify a valid source.
19	INVALID TRANS TIME	The effect transition time is longer than the TO source duration.	Reset the effect transition time to a value shorter than the TO source duration.
20	MEMORY FULL	An attempt was made to register an edit in the EDL when EDL memory was already full.	Transfer unneeded edits to external equipment, then delete them from the EDL.
21	ROM ERROR	A checksum error occurred in the system program.	There may be an error in system firmware. Contact a Sony service representative.
23	INAPPROPRIATE TIME DATA	An inappropriate value was entered for an IN point, OUT point or duration.	Enter an appropriate value.
24	CANNOT FIND CUE POINT P1, P2, R	The specified IN or OUT point could not be cued up when the GO TO button was pressed.	Set the IN or OUT point which you want to cue up.

In Case of Trouble

If any difficulty should arise during operation, first check the power and connections, then go through the following list. Should the difficulty persist, contact your Sony dealer or a Sony service representative.

Problem	Possible causes and remedies
No picture on the monitor.	• Make sure that the VCRs and monitors are turned on. • Check connections to external equipment[a] *(see "Connections", page 3-3).* • Make sure that the VCRs are in playback mode *(see "Controlling the VCRs", page 4-2).*
No signals from equipment connected to input connectors.	Check setup menu item 101 VIDEO INPUT SELECT. If you have connected a source to the VIDEO INPUT connectors, the setting should be V, for composite video signals. (The factory default setting is S-V, for S-video signals.)
The wrong video is shown on the monitor.	• Select the desired signals with the buttons in the VIDEO INPUT SELECT section. • Check video input connections [a].
The monitor shows only a grey background.	• Check that cassettes are loaded in the players. • A button in the VIDEO INPUT SELECT section may have selected a video input connector with no video input.
The monitor shows only a white or black background.	• If the BKGD button in the VIDEO INPUT SELECT section is lit, press to turn it off. • If the WHITE FADE or BLACK FADE button in the EFFECT TRANSITION section is lit, press to turn it off.
Video quality is poor.	• After verifying that there is no problem with the tape, adjust the video with the knobs in the VIDEO LEVEL & HUE section *(see "Adjusting Video Signals", page 4-15).* • Verify that the posterization effect is off (the POSTRZ button in the INPUT EFFECT section is off). • Verify that the zoom effect is off (the ZOOM button in the INPUT EFFECT section is off). • Verify that mosaic is not being applied.
The wrong audio signals are heard.	• Select the right signals with the buttons in the AUDIO INPUT SELECT section. • Check audio input connections [a].
There is no input from the microphone.	If the AUX 2/MIC switch in the audio mixer section is set to AUX 2, set it to MIC.
There is no input from auxiliary source 2.	If the AUX 2/MIC switch in the audio mixer section is set to MIC, set it to AUX 2.
Audio volume is too loud or too soft.	Adjust the volume *(see "Adjusting Audio Levels", page 4-16).*
The audio is distorted.	If the audio input connectors on this unit are connected to XLR 3-pin connectors on the audio equipment, set the 600 Ω termination switches to ON.
The video switches too quickly or too slowly.	Set the effect transition time *(see "Setting the Transition Time", page 5-58).*
The fader lever doesn't move.	Extinguish the AUTO TRANS/PAUSE button *(see "Note on the fader lever", page 4-13).*

a) Check to be sure that all cables are firmly seated in the connectors.

Problem	Possible causes and remedies
The wrong mix type or wipe patterns are used.	If any unneeded buttons are lit in the MIX/EFFECT or WIPE PATTERN sections, press to turn them off.
How can I turn off the beep?	Set setup menu item 103 BEEP to OFF.
VCR cannot be controlled.	• Make sure that the VCR is turned on. • Check connections to the VCR[a] *(see "Connections", page 3-3).* • Turn the unit off, and then turn it on again after veryifying that the RS-422/ RS232C switches on the connector panel are set to the appropriate positions for the VCR. • If the VCR's REMOTE/LOCAL switch is set to LOCAL, set it to REMOTE.
Nothing is shown in a time counter display.	• Make sure that the VCR is turned on. • Check connections to the VCR[a] *(see "Connections", page 3-3).* • If the VCR's REMOTE/LOCAL switch is set to LOCAL, set it to REMOTE.
Time counter display doesn't change.	The time counter does not change if time code or CTL signals are not recorded on the tape. Check by setting setup menu item 104 EDIT REFERENCE to CTL. If there is still no change in the time counter display, then there are no CTL signals recorded on the tape.
Auto edit or preview does not begin when the AUTO EDIT/ END or PREVIEW button is pressed.	• The master tape cassette may be write inhibited. • Check connections to the VCRs[a] *(see "Connections", page 3-3).* • If the tape has played to the end, rewind it. • The VCR's input selection switch may be set incorrectly. • The VCR's NORMAL/EDIT switch may be set incorrectly. • In insert mode: — The wrong insert mode button may have been pressed *(see "Insert Mode", page 5-3).* — CTL signals must be recorded on the entire tape in order to conduct a preview or automatic edit. • In assemble mode: CTL signals must be recorded on the tape, at least around the first IN point. For a new tape, record black signals at the beginning of the tape *(see "Executing a first edit", page 5-7).* • Consult your VCR manuals if the VCR's AUTO OFF indicator is flashing.
In a preview or automatic edit, the actual edit points are not the ones I set.	• When using CTL time data to set edit points, you may have reset a time counter by pressing the RESET button on a counter display panel. • Depending on the VCR, the actual edit points may differ slightly from those set with this unit. Adjust using the TRIM– (=SHIFT + IN) and TRIM+ (=SHIFT + OUT) buttons *(see "Changing edit points" page 5-21).*
There is picture breakup between edits.	• There may be a break in CTL signals between the edits. • Using the REC button causes breakup in the picture after an edit. Connect edits using the AUTO EDIT/END button.
There are stripes on the monitor screen.	Guard band noise is sometimes seen during playback at speeds other than +1 times normal speed. This is not a malfunction.
The picture is unstable.	• There may be noise in the input signals from the VCR. Check by selecting another VCR. The picture may also be unstable if CTL signals on the tape are noisy or irregular. • Recorder video may be unstable when a search (high-speed playback) is carried out on a player. Stop the player, or put it into normal-speed playback mode. • The VCR may not be receiving the correct input of reference video or sync signals.

a) Check to be sure that all cables are firmly seated in the connectors.

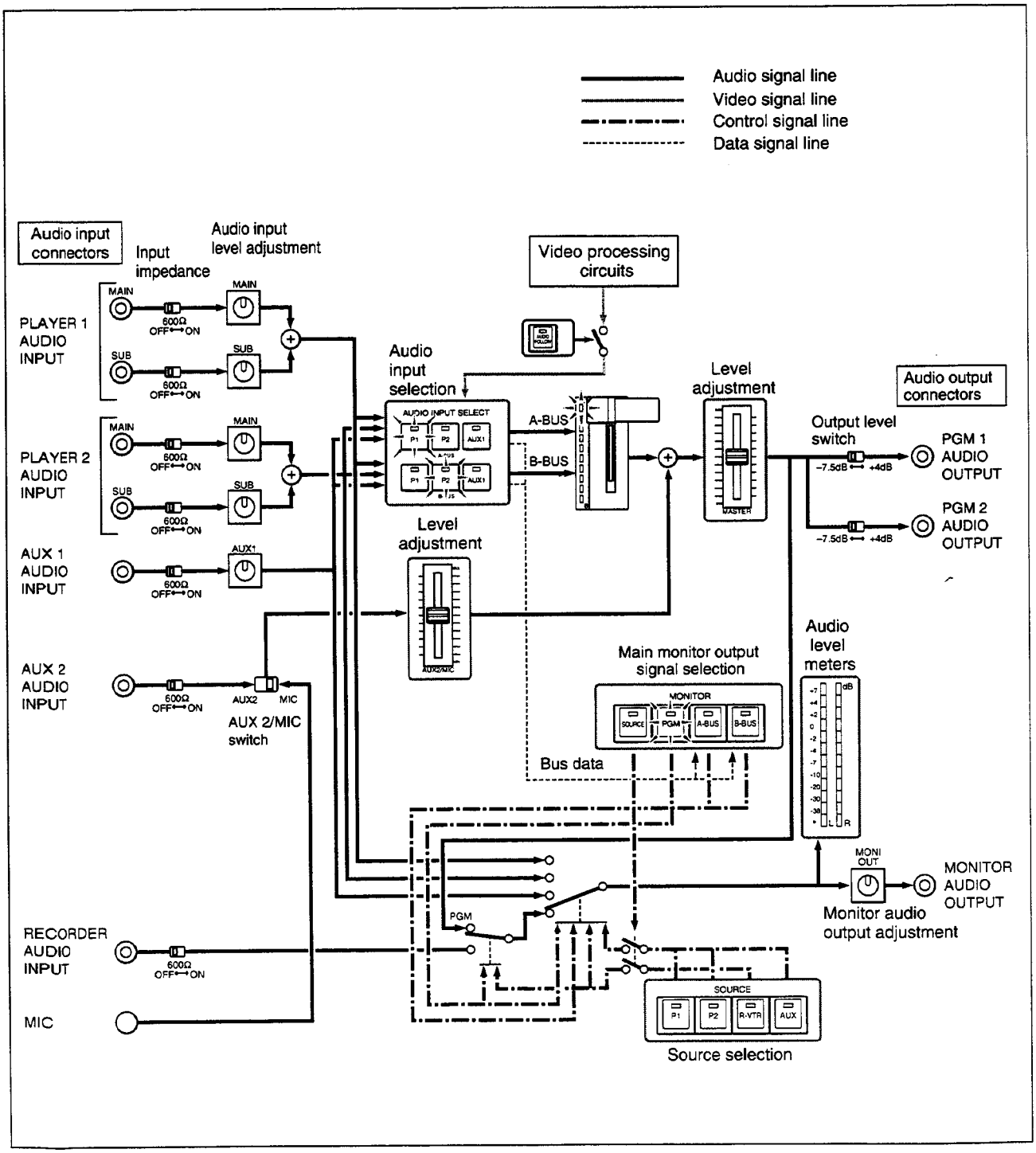
Problem	Possible causes and remedies
The picture drifts vertically.	Check the position of the monitor's vertical sync control.
The setup menu does not appear, even though the MENU indicator in the SCREEN section is lit.	Press the search dial to put it into the jog (depressed) position.
Vertical lines appear in the picture when the zoom input effect is used.	Vertical lines sometimes appear during zoom playback, depending on the capability of the VCR. This is not a malfunction.

Audio Signal Flow

The illustrations in this section show the flow of audio signals when program and source signal channels are selected for output.

Audio signal channels

The audio signal channels of this unit are as follows.



Audio signal channels

Audio Signal Flow

Flow of program and source audio

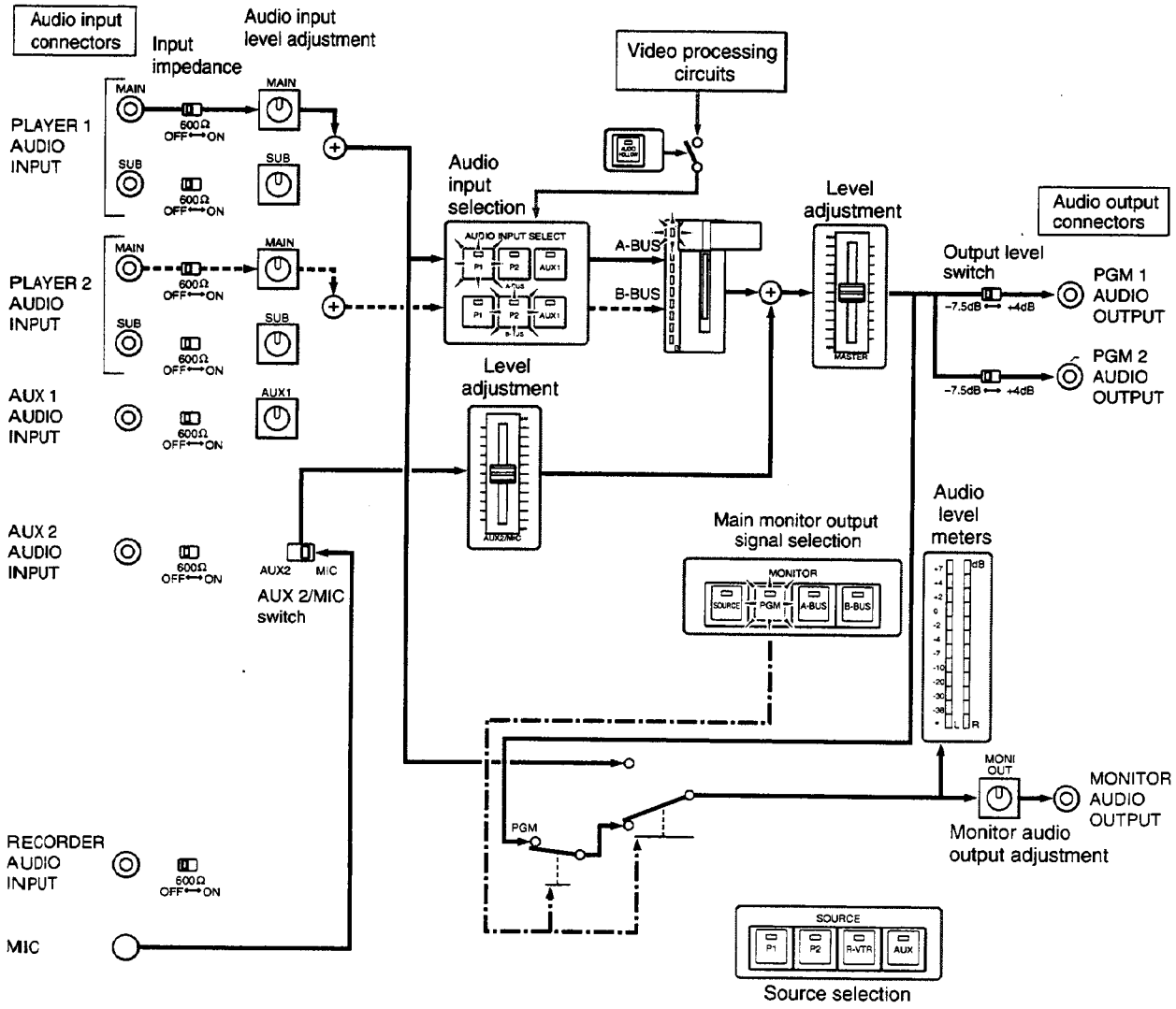
Example 1: When program audio is selected for output to the main monitor

The thick lines (—) and thick broken lines (---) show the flow of audio signals when audio controls are set as follows.

AUDIO INPUT SELECT section	A-BUS row: P1 button is lit
	B-BUS row: P2 button is lit
AUDIO FOLLOW button	Off
Fader lever	Pushed all the way to side A
Transition indicators	Only one lit on side A
MONITOR section	PGM button is lit
AUX 2/MIC switch	Set to MIC

In this case, player 1 audio will be mixed with input from the microphone and output from the PGM 1/2 AUDIO OUTPUT and the MONITOR AUDIO OUTPUT connectors.

Audio signal lines
Video signal line
Control signal line



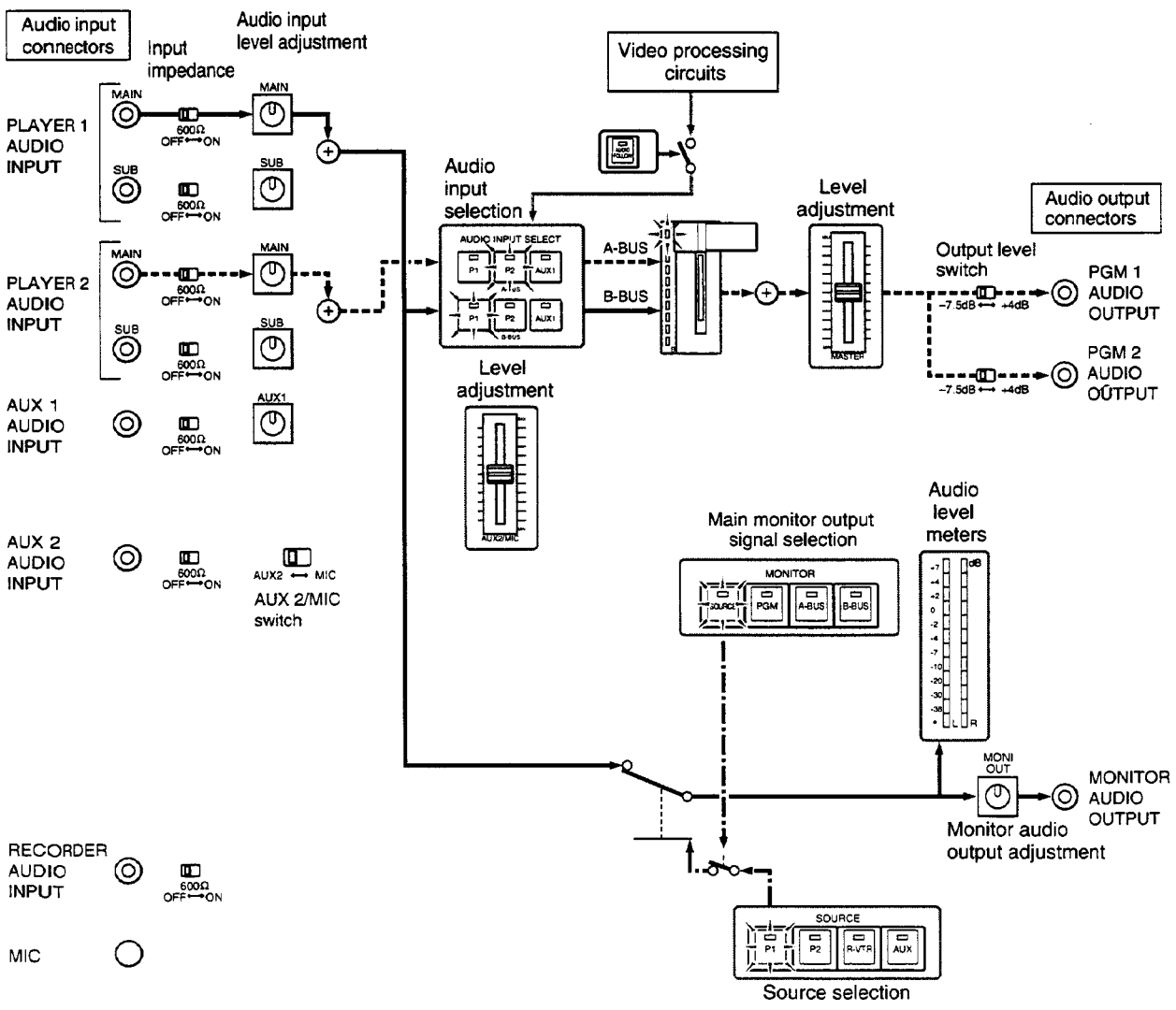
Audio signal flow when program audio is selected for output to the main monitor

Example 2: When source audio is selected for output to the main monitor

The thick lines (—) and thick broken lines (- - -) show the flow of audio signals when audio controls are set as follows.

AUDIO INPUT SELECT section	A-BUS row: P2 button is lit
	B-BUS row: P1 button is lit
AUDIO FOLLOW button	Off
Fader lever	Pushed all the way to side A
Transition indicators	Only one lit on side A
MONITOR section	SOURCE button is lit
SOURCE switch	P1 button is lit

In this case, player 2 audio will be output from the PGM 1/2 AUDIO OUTPUT connectors, and player 1 audio will be output from the MONITOR AUDIO OUTPUT connectors.

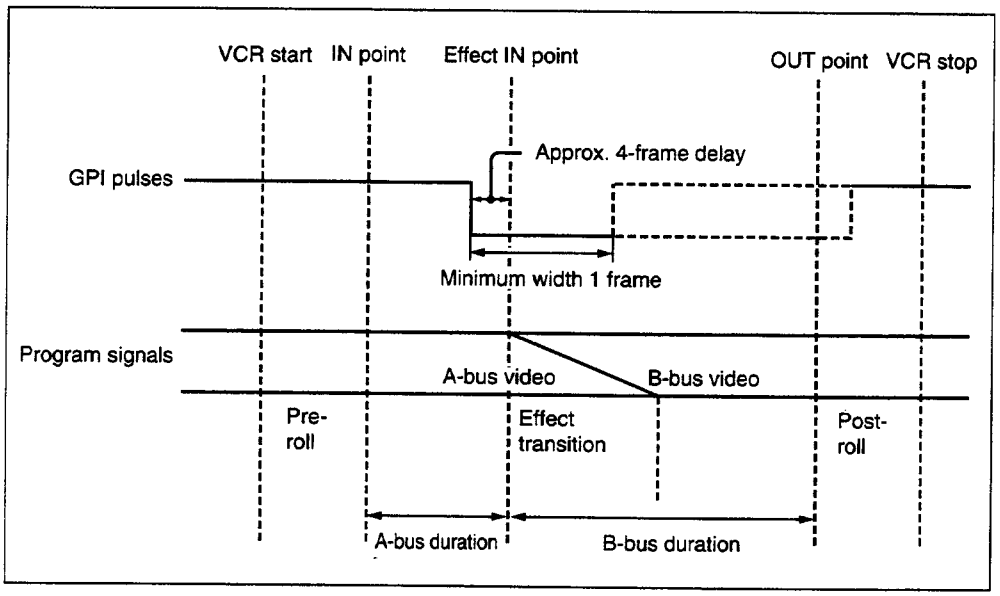


Audio signal flow when source audio is selected for output to the main monitor

GPI Interface Effect Timing

This unit's GPI interface allows you to use external devices to control the timing of effect transitions between A-bus and B-bus source signals.
However, there is a delay of approximately 4 frames between the time when an external device issues a GPI pulse and the time when the effect transition begins. If you need precise control over effect timing, refer to following illustration and adjust the timing of GPI pulses on the external device side.

GPI pulse specifications: TTL LOW level, minimum pulse width 1 frame



GPI interface effect timing

Wipe Patterns

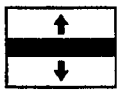
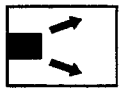
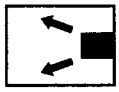
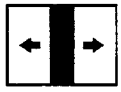
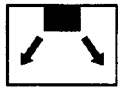
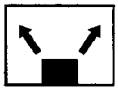
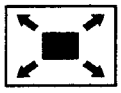
The illustrations in this section show the patterns which can be assigned to the USER 1 and USER 2 buttons in the WIPE PATTERN section, using setup menu item 201 WIPE PATTERN.

For details, see Chapter 8.

Pattern transitions

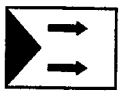
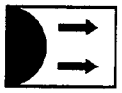
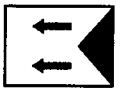
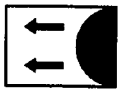
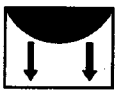
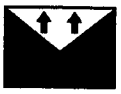
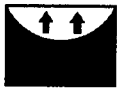
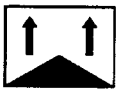
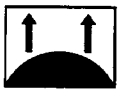
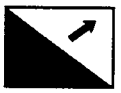
Arrows show wipe directions. In a transition from bus A to bus B, the wipe replaces bus-A video (white portion) with bus-B video (black portion) in the directions shown by the arrows.

Basic patterns 1

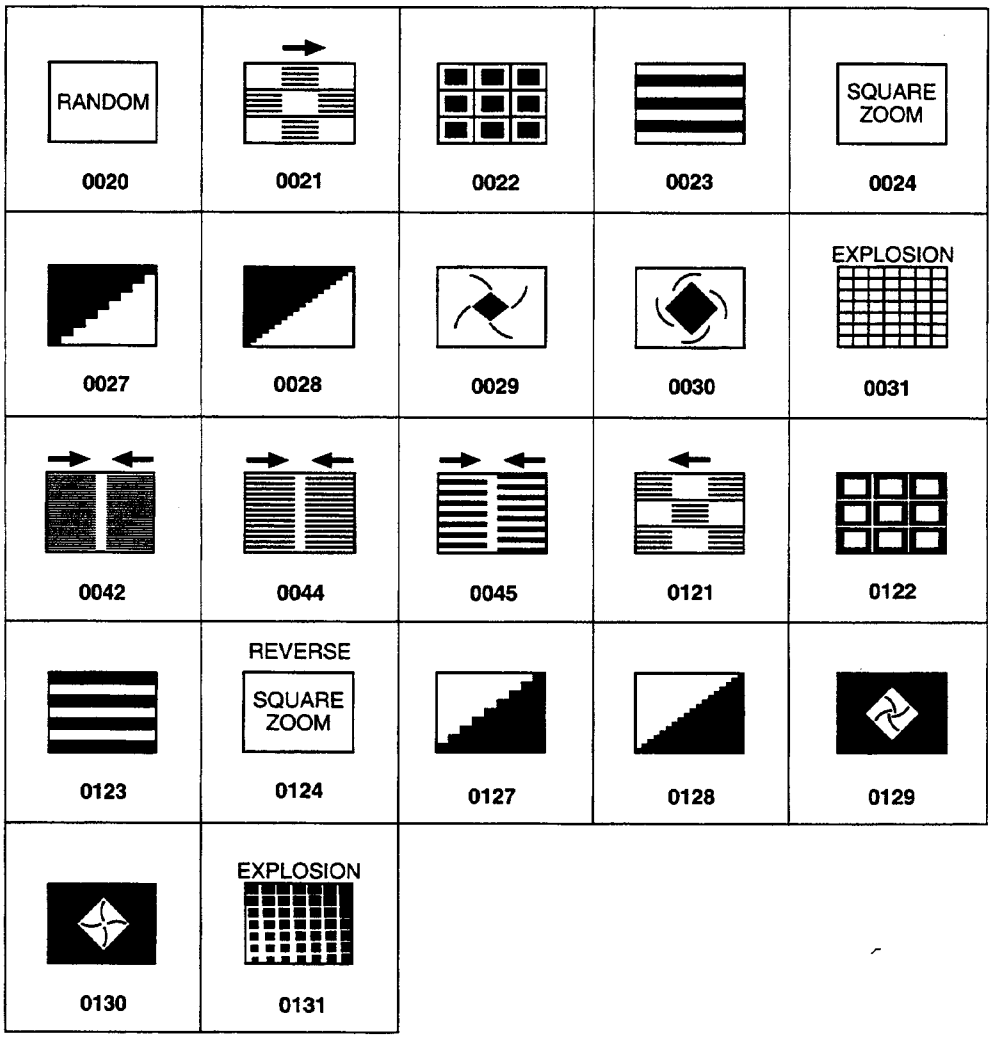
0001	0002	 0003	0004	0005
0006	 0007	0008	0009	0010
 0011	 0012	 0013	 0014	 0015
0016	0017	0018	0019	0105
0106	0107	0109	0110	0111
0112	0113	0114	0115	0116

Wipe Patterns

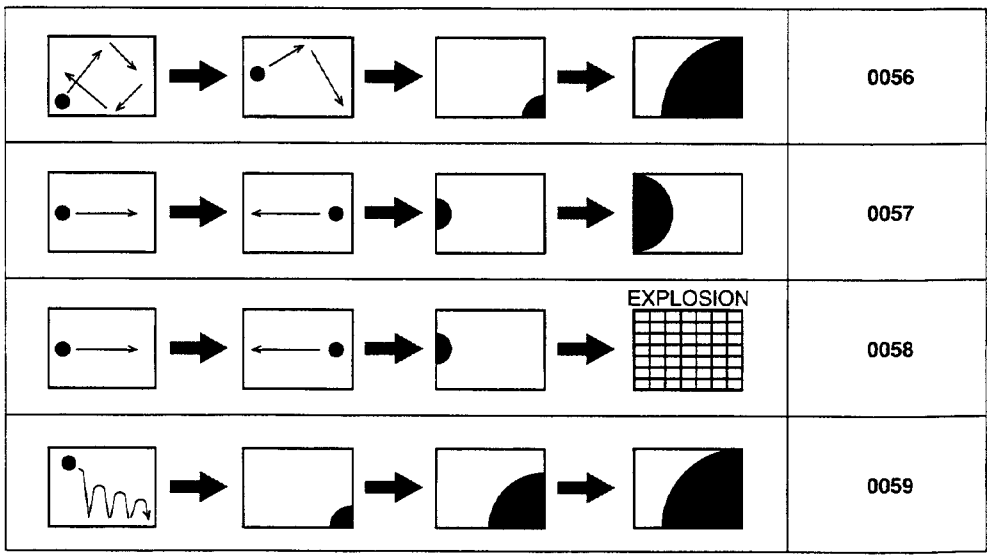
Basic patterns 1 (Continued)

0117	0118	0119	0103	 1018
 1019	1118	1119	 2018	 2019
2118	2119	3018	 3019	 3118
 3119	 4018	 4019	4118	4119
5018	6018	7018	 8018	

Basic patterns 2

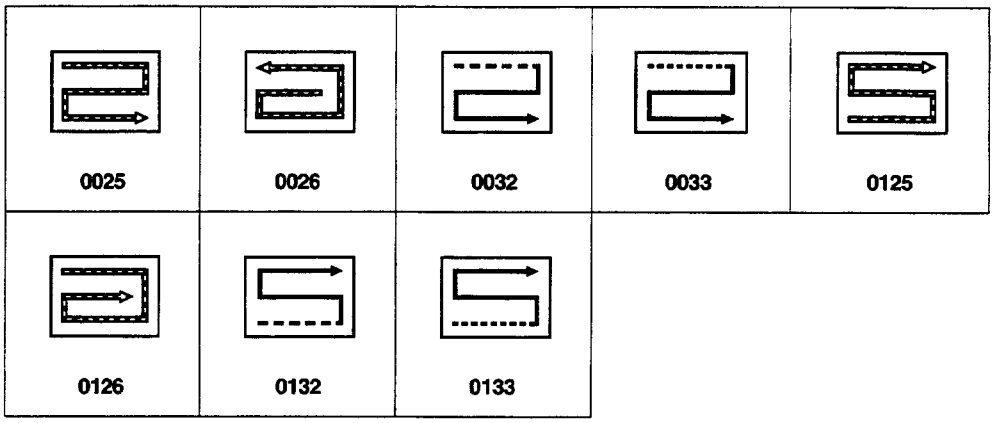


Complex patterns

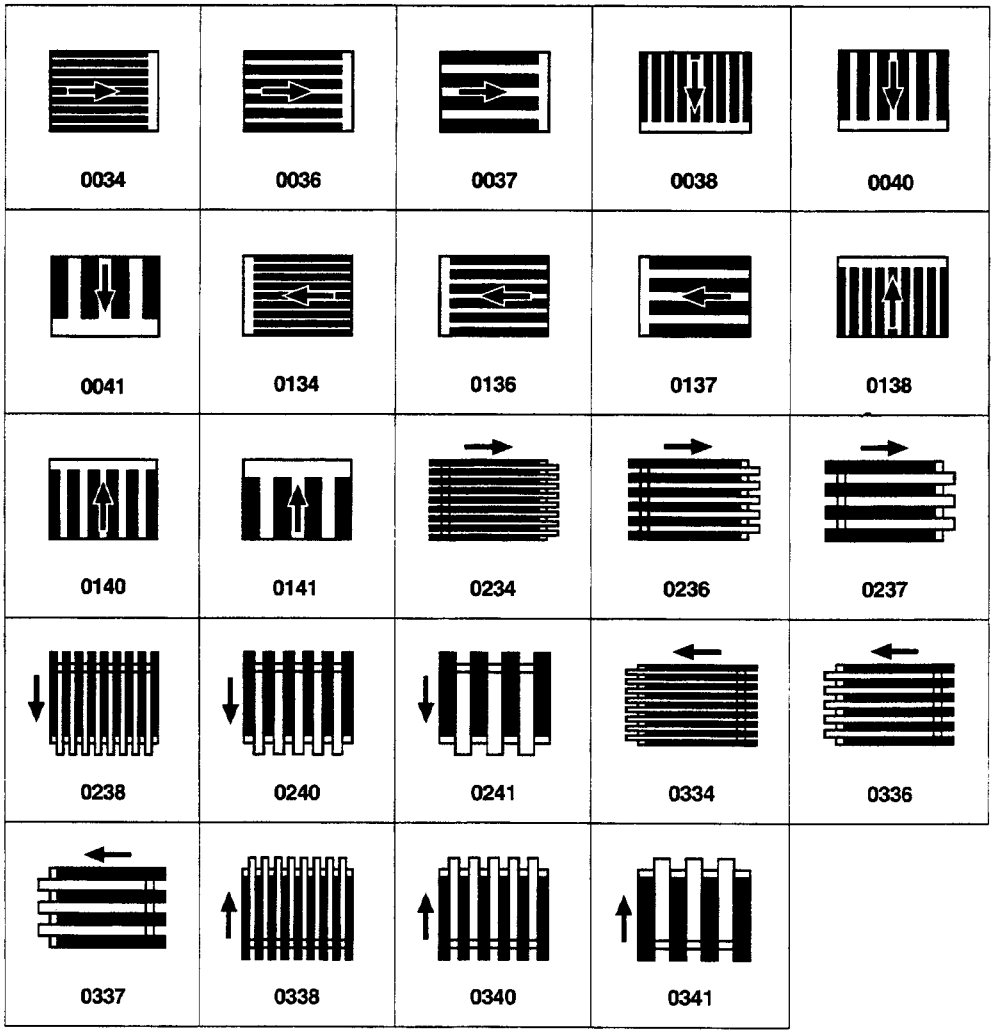


Wipe Patterns

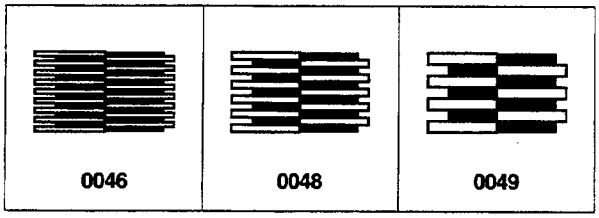
Matrix patterns



Split slide patterns



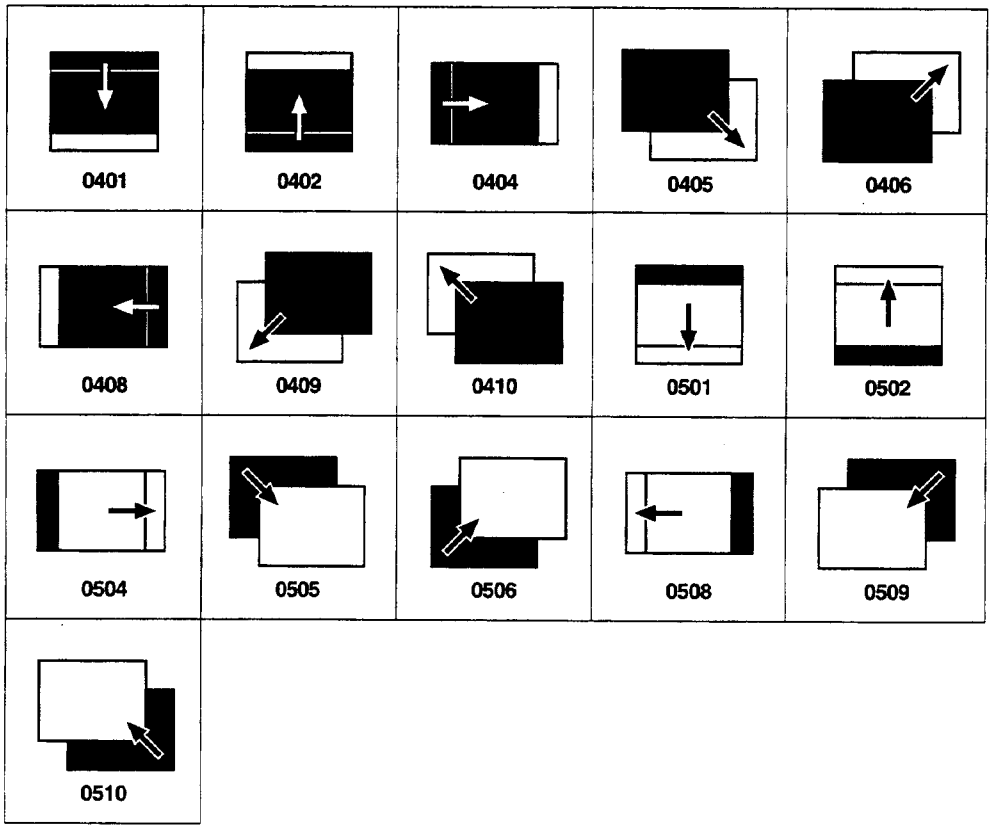
Interborder split patterns



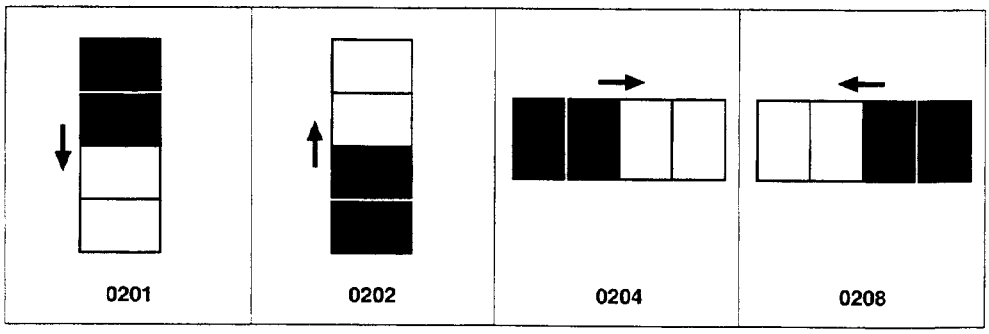
Note

When combining interborder split patterns with input effects, select the same input effects for bus A and bus B.

Slide patterns



Scroll patterns



Specifications

General

Signal system	FXE-100: NTSC FXE-100P: PAL
Power requirements	FXE-100: 120 V AC ±10%, 50/60 Hz ±5% FXE-100P: 220 to 240 V AC, 50/60 Hz ±5%
Power consumtption	Maximum 52 W
Operating temperature	5°C to 40°C (41°F to 104°F)
Storage temperature	–20°C to +60°C (–4°F to 140°F)
Mass	Approximately 7.3 kg (16 lb 1 oz)
Dimensions (w/h/d)	424 × 138.5 × 437.5 mm (16 3/4 × 5 1/2 × 17 1/4 inches)

Editing controller functions

CPU	16 bit
Time counter	Internal time counter (× 3)
Time count display range	(hours:minutes:seconds:frames) • Time code: 00:00:00:00 to 23:59:59:29 (FXE-100) 00:00:00:00 to 23:59:59:24 (FXE-100P) • CTL: ±9:59:59:29 (FXE-100) ±9:59:59:24 (FXE-100P)
Edit modes	• Insert (channels: video, audio 1, audio 2) • Assemble • First edit • Time code insert • Split (audio split offset from video IN point) • Dynamic Motion Control (DMC)
Edit reference signals	• CTL signal • SMPTE/EBU time code (LTC) • 8 mm time code
Editing precision	RS-422 interface: ±0 frames (time code) ±1 frame (CTL) RS-232C interface: ±1 frame (time code)
Transition time range	0 to 999 (unit: frames)
Pinch-on delay	Simultaneous measurement of pinch-on delay for up to three VCRs connected to RS-422/RS-232C connectors. Measurement data stored in memory.
EDL memory capacity	99 edits

Control functions

VCR interfaces

RS-422

RS-422 (D-sub 9-pin) × 3
PLAYER 1, PLAYER 2, RECORDER
Connectable VCRs:
- FXE-100
  Hi8: EVO-9850/9800/9800A
  S-VHS: SVO-9600, SVP-9000
  Betacam: UVW-1800 (recorder)
  U-matic: VO-9800/9850
- FXE-100P
  Hi8: EVO-9850P/9800P
  S-VHS: SVO-9620, SVP-9020
  Betacam: UVW-1800P (recorder)
  U-matic: VO-9800P/9850P

RS-232C

RS-232C (D-sub 9-pin) × 3
PLAYER 1, PLAYER 2, RECORDER
Connectable VCRs:
Hi8: EVO-9720/9650 (FXE-100)
EVO-9650P (FXE-100P)

VCR remote control functions

Playback, still playback, fast forward, rewind, standby off, stop, jog control, shuttle control, record, eject, stop all VCRs, DMC

GPI interface

GPI OUT (BNC) × 2
GPI IN (BNC)

EDL interface

EDL IN/OUT (D-sub 9-pin)

Input connectors

Video input

S-video

S VIDEO INPUT (mini DIN 4-pin) × 4, unbalanced
PLAYER 1, PLAYER 2, AUX 1, RECORDER
- Y: 1.0 V p-p, 75 Ω, sync negative
- C: 0.286 V p-p, burst, 75 Ω (FXE-100)
  0.3 V p-p, burst, 75 Ω (FXE-100P)
- Sync: 0.286 V p-p (FXE-100), 0.3 Vp-p (FXE-100P)

Composite video

VIDEO INPUT (BNC) × 4, unbalanced
PLAYER 1, PLAYER 2, AUX 1, RECORDER
- Video: 1.0 V p-p,75 Ω, sync negative
- Sync: 0.286 V p-p (FXE-100), 0.3 Vp-p (FXE-100P)
- Burst: 0.286 V p-p (FXE-100), 0.3 Vp-p (FXE-100P)

Specifications

Audio input

Stereo	AUDIO L/R INPUT (phono jack), 2 channels × 5 PLAYER 1 MAIN (2), SUB (2) PLAYER 2 MAIN (2), SUB (2) RECORDER (2) AUX 1 (2) AUX 2 (2) Impedance selectable with 600 Ω termination switch. Input level: –7.5 dBs [1] (input impedance 47 kΩ or above, 600 Ω switch OFF) +4 dBs [1] (input impedance 600 Ω, 600 Ω switch ON)
Microphone	MIC (monaural phone), unbalanced • Input level: –60 dBs [1] • Input impedance: 4.3 kΩ or above

Output connectors

Video ouput

S-video	S VIDEO OUTPUT (mini DIN 4-pin) × 2, unbalanced PGM 1, PGM 2 • Y: 1.0 V p-p, 75 Ω, sync negative • C: 0.286 V p-p, burst, 75 Ω (FXE-100) 0.3 V p-p, burst, 75 Ω (FXE-100P) • Sync: 0.286 V p-p (FXE-100), 0.3 Vp-p (FXE-100P)
Composite video	VIDEO OUTPUT (BNC) × 3, unbalanced PGM 1, PGM 2, MONITOR • Video: 1.0 V p-p,75 Ω, sync negative • Sync: 0.286 V p-p (FXE-100), 0.3 Vp-p (FXE-100P) • Burst: 0.286 V p-p (FXE-100), 0.3 Vp-p (FXE-100P)
Black burst	B.B OUT (BNC) × 4, unbalanced • Sync: 0.286 V p-p, 75 Ω (FXE-100) 0.3 V p-p, 75 Ω (FXE-100P) • Burst: 0.286 V p-p, 75 Ω (FXE-100) 0.3 V p-p, 75 Ω (FXE-100P)
Audio output (stereo)	AUDIO L/R OUTPUT (phono jack) × 6 PGM 1 (2), PGM 2 (2), MONITOR (2) PGM 1, PGM 2 output level selectable with –7.5 dB/ +4 dB switch

1) 0 dBs = 0.775 Vrms

Video characteristics

Sampling rate	Y: 910 fH [1)]
	R–Y, B–Y: 1/4 × 910 fH
Quantizing	Y, R–Y, B–Y: 8-bit
Frequency	FXE-100: 0 to 5 MHz, +1dB/–3dB
	FXE-100P: 0 to 5 MHz, +1dB/–4dB
Signal-to-noise ratio	53 dB or above

Accessories supplied

AC power cord (1)
Operating Instructions (1)
Handbook (1)

Design and specifications are subject to change without notice.

Accessories not supplied

Remote control cables

- RS-422: RCC-5G/10G/30G (9-pin 5 m/10 m/30 m or approx. 16 f/33 f/98 f)
- RS-232C: SMF-3036C (9-pin/25-pin null modem cable)

XLR 3-pin/phono jack cross cables

- RK-5XLRM (male, 5 m or approx. 16 f)
- RK-5XLRF (female, 5 m or approx. 16 f)

Note

This appliance conforms with EEC Directive 87/308/EEC regarding interference suppression.

1) 1 fH = 15.734 kHz (NTSC) or 15.625 kHz (PAL)

Glossary

A-roll edit
An edit using one player and one recorder for basic cut editing.

A/B roll edit
An edit using one recorder and two or more players, to permit special effects such as dissolve and wipe. Use of an editing controller allows efficient control of the VCRs and very precise editing.

Assemble edit
An edit in which new scenes are added to the end of existing scenes. CTL signals are recorded in the control track.

Black burst
Video signal containing no information above the black level. A signal containing only sync pulses and color burst signals.

Bus
A path for an input signal or internally generated color matte signal. Signals selected for input to a bus are output to the next process.

Capstan servo
Servo control of the capstan, a smooth metal cylinder that rotates to move the tape. During playback, tape speed is controlled by comparing CTL pulses recorded on the tape to a reference signal.

Chroma
In colors, hue and saturation.

Chroma key
Key effect in which portions of one signal of a particular color (usually a highly saturated blue) are replaced by portions of another signal.

Chrominance signal
Video signal containing hue and saturation. Also referred to as the "C" signal.

Color frame
A color subcarrier phase with a cycle that consists of two frames (four fields) in the NTSC format and four frames (eight fields) in the PAL format.

Color frame lock
A procedure in which the time code frame value is set to an odd number for the first and second color fields, and to an even number for the third and fourth color fields. Used to maintain continuity of the color subcarrier phase from one two-field frame to the next, in order to avoid fluctuation in the picture at edit points.

Color subcarrier
The color information contained in a composite video signal. Amplitude is used for saturation and phase for hue.

Composite video
Video signal containing luminance (Y) and chrominance (R–Y, B–Y) components, together with horizontal and vertical sync pulses and color burst signals.

CTL
Longitudinal control track of a video tape, and the pulse signals recorded on it. The pulses correspond to video frames and can be used to display the tape running time.

Cue up
To move the tape to a specific location, e.g. an edit point.

Cut
To switch instantly from one audio/video source to another.

Dissolve
See **mix**.

DMC
Abbreviation of dynamic motion control. Editing of variable speed playback using VCRs which support dynamic tracking. *See* **DT**.

Drop-frame mode
Under the NTSC system, the actual number of frames per second is approximately 29.97, slightly less than the 30 frames per second in time code. Drop frame mode corrects for the difference by skipping two frames per minute, except for every tenth minute, so that the time code frame count matches the real time frame count.

Drum servo
Servo control of the rotating metal drum to which the video heads are attached. A speed loop drives the drum at a uniform speed, and a phase loop adjusts the speed to bring the heads over the tape at the correct time.

DT
Abbreviation of dynamic tracking. In VCRs, a system for dynamically aligning a rotary video head to a helical scan track in order to compensate for varying tape speeds. Feedback from the playback RF level is used to maintain the optimal tracking position.

Duration
The length of an effect, or the distance between the IN point and the OUT point of an edit segment.

E-E mode
Abbreviation of electric-to-electric mode. A mode in which signals are passed through electronic circuits only. Often used to check input and output signals by passing them to a monitor but not to VCR recording heads.

EBU
European Broadcasting Union.

Edit
To add, insert or replace signals at specific locations on a videotape. In this manual, edit also refers to individual data records in the EDL.

Edit number
The number assigned to an edit when it is registered in the EDL.

Edit point
The location on a tape, in terms of CTL or time code data, where recording or playback of program material begins (IN point) or ends (OUT point).

EDL
Abbreviation of edit decision list. A list containing data (edit points, effects, etc.) used to reproduce edits at a later time, either singly or in sequence.

Field
In the NTSC system, frames are presented as two interlaced fields of 262.5 lines each. Odd lines are scanned for the first field before returning to the top of the frame to scan even lines. This arrangement reduces flicker by presenting more views per second without the need to increase video frequencies.

Frame
Two interlaced fields, containing all the information in a complete picture.

Frame synchronizer
Device containing enough memory to hold an entire video frame and circuits for synchronized output. Provides increased stability when using signals from equipment without time base correction (TBC) or synchronization to reference signals.

Freeze
Playback of still picture video. This unit provides two kinds of freeze output from digital frame memory. Freeze frame presents two interlaced fields, for a high-definition picture. Freeze field, the repetition of a single field, is preferable when there is rapid motion in the picture although it yields less vertical detail.

GPI
Abbreviation of general purpose interface. An interface used to control compact disc players and other kinds of equipment lacking a formal interface to an editing controller.

Hue
The attribute of colors that allows them to be classified as red, yellow, green, blue and so on. For example, red and blue have different hues, while red and pink have the same hue but different saturations. *See also* **chrominance signal** and **luminance signal**.

IN point
See **edit point**.

Glossary

Insert edit
An edit in which new scenes are inserted into the middle of existing scenes. Audio, video and time code can be inserted together or separately. The recorder uses prerecorded CTL signals on its tape to control tape travel. Before editing, CTL signals must be recorded along the entire length of the tape.

Key
Effect in which a portion of one signal, as determined by comparison to a given reference level, is replaced by a portion of another signal. *See* **chroma key** and **luminance key**.

LTC
Abbreviation of longitudinal time code. Time code recorded on a longitudinal track of the tape, read out once at the end of each frame.

Luminance signal
Signal that determines the brightness of the picture. Also referred to as the "Y" signal. Monochrome receivers reproduce the luminance signal as shades of white and grey.

Luminance key
Key effect in which portions of one signal above or below a specified luminance level are replaced by portions of another signal.

Mix
Effect in which one signal fades in while another fades out. The speed of the transition can be set in advance or controlled with a fader lever.

Mosaic
Digital effect which divides a picture or part of a picture into small, colored rectanges.

Non-drop frame mode
A video recording mode which ignores the difference (approximately 86 seconds per day) between real time and NTSC time code, making it difficult to use frame counts as a reference when editing in units of seconds. *See also* **drop-frame mode**.

NTSC
Color television system standardized in the United States by the National Television System Committee. Used in the United States, Canada, and Japan.

OUT point
See **edit point.**

PAL
Phase alternate by line. Color television system developed in Germany and widely used throughout Europe.

Pinch-on delay
The time required, after an editing controller issues a command to a VCR, for the capstan to actually begin moving the tape.

Posterization
Digital effect which simplifies a picture by reducing it to a small number of tones.

Postroll
Running a videotape a certain distance past the edit OUT point in order to monitor the video that follows.

Preroll
Running a videotape a certain distance before the edit IN point, allowing the tape to reach a steady speed and synchronizes with other videotapes.

Reference signal
Signal used to synchronize video equipment, usually consisting of sync and color burst signals.

Saturation
The extent to which a color has been diluted by white. Pure red is fully saturated, while pink is diluted.

Servo lock
In VCRs, synchronization of tape transport and video head drum rotation with a reference signal (normally the vertical sync signal).

SMPTE
Society of Motion Picture and Television Engineers.

Source
Source of audio or video signals, such as a VCR or camera.

Standby off mode
In VCRs, a mode in which the video head drum is stationary and the tape is slack. Prevents needless wear when immediate playback is not required.

Standby mode
In VCRs, a mode in which the tape is stationary but remains wound around the video head drum, which continues to rotate.

S-video
A video signal with separate luminance (Y) and chrominance (C) components. As opposed to composite video, S-video provides improved resolution by eliminating inteference between the Y and C signals.

Sync roll edit
An edit in which two players are run in synchronization, allowing "on the fly" manual effects.

Synchronization
In video editing, alignment of the position and speed of player and recorder VCRs tapes. Carried out during preroll in order to increase editing precision.

TBC
Abbreviation of time base corrector. Circuits to remove fluctuation in VCR playback signals caused by variations in tape speed or head drum rotation speed.

Time code
Signals recorded on the tape to supply information on tape position such as the hour, minute, second and frame, to assist in setting edit points or cuing particular scenes. Time code formats have been standardized by the SMPTE and EBU. There are two types of time code, LTC and VITC, which are recorded on different tracks of the tape.

Tracking
Control of tape transport speed to ensure that on playback the video head correctly scans the tape in phase with the signal recorded on the tape.

User bits
A 32-bit segment of the 80-bit (SMPTE format) or 90-bit (EBU format) time code signal, used to record information such as date, tape ID or program ID.

VITC
Abbreviation of vertical interval time code. Time code recorded on a video track during the vertical blanking interval. It can be read out during still picture playback.

White balance
Adjustment of the white levels of the R, G and B signals, so that a white subject is rendered in a pure white tone.

Wipe
Effect which replaces one video signal with another, regardless of the contents of the signals. Wipes can be carried out automatically or controlled with a fader lever. They can be directed, and given hard or soft edges. Geometrical wipe patterns are often provided to govern the order in which different sections of the original signal are replaced.

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